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2024 WACEM SUMMER SUMMIT OF LEADERS

FULL TEXT BOOK



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TAM METİN KİTABI

FULL TEXT BOOK

1062

A Rare Cause of Headache in Emergency Department - Porencephalic Cyst

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INTRODUCTION

Porencephaly is an extremely rare cephalic disorder involving encephalomalacia (1). Its etiology remains not entirely elucidated and manifests as a neurological condition affecting the central nervous system (2). This condition is characterized by cysts or cavities in the cerebral hemisphere, representing a neurological disorder of the central nervous system (3).

Here, we presented a case of a porencephalic cyst, which is a rare cause of headache in adults.

CASE

A 25-year-old male patient presented to our emergency department with a recent onset of headache. On arrival, his Glasgow Coma Scale (GCS) was 15, vital signs were stable, and he had no fever. Physical examination did not reveal neck stiffness, and cranial nerve examinations were normal. There was no evidence of an infectious focus in the patient. Brain computed tomography (CT) imaging revealed asymmetric enlargement in the left lateral ventricle, with a hypodense lesion extending towards the left supraventricular level adjacent to the lateral ventricle (Image 1,2 and 3). The CT report indicated no midline shift. The patient was consulted to the Department of Neurosurgery. The consultation resulted in the diagnosis of a porencephalic cyst based on the CT findings, with no evidence of edema or midline shift. Since no urgent pathology was identified, the patient was discharged with recommendations for outpatient follow-up at the Neurosurgery Clinic, with a Brain MRI requested. The patient benefited from analgesic treatment in the emergency department and was discharged with instructions.

DISCUSSION

Porencephaly was coined by Heschl in 1859 to describe a cavity within the human brain (4). The term "porencephaly" is derived from Greek roots, meaning "holes in the brain" (5). It represents a cavity within the cerebral hemisphere with a smooth wall covered by gliotic or spongy white matter, containing cerebrospinal fluid. Typically, the cavity communicates directly with the ventricular system and is often found in regions supplied by cerebral arteries. In other instances, it may be separated by a thin layer of brain tissue and covered externally by the arachnoid (2). These cysts and cavities are often the result of destructive (encephaloclastic) processes but can also arise from abnormal development (malformation), direct injuries, inflammatory processes, or hemorrhages (6). The prevalence is approximately 3.5 per 100,000 live births, with very rare reports in adults (2,7).

The cavities can vary significantly in size and location; they can be cortical or subcortical, unilateral or bilateral, single or multiple. Porencephalic cysts can be classified as congenital or acquired: it has been suggested that they are triggered by a vascular supply disorder leading to cerebral degeneration. Congenital porencephalic cysts result from intrauterine vascular injury leading to cerebral ischemia or intra-parenchymal hemorrhage. Acquired porencephalic cysts are secondary to injuries occurring later in life, such as trauma, surgery, ischemia, or infection (2). In childhood, undiagnosed head trauma can result in the widening of the fracture line over time, leading to the formation of a leptomeningeal cyst that can eventually merge with the ventricle towards adulthood, forming a porencephalic cyst (8).

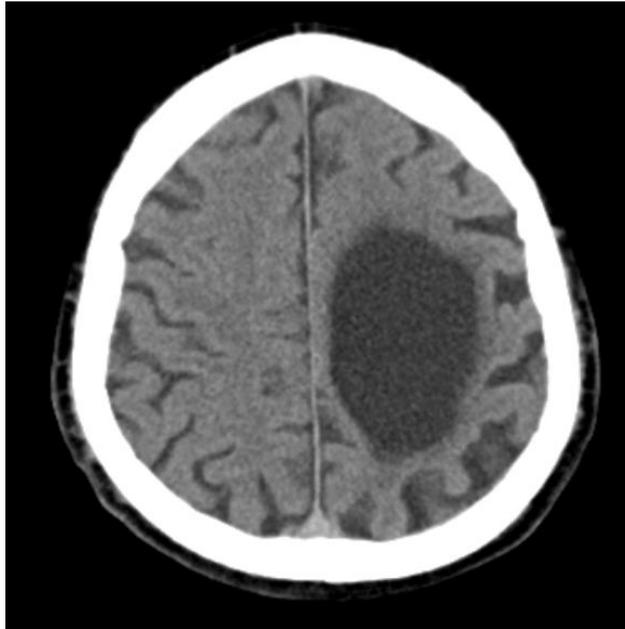
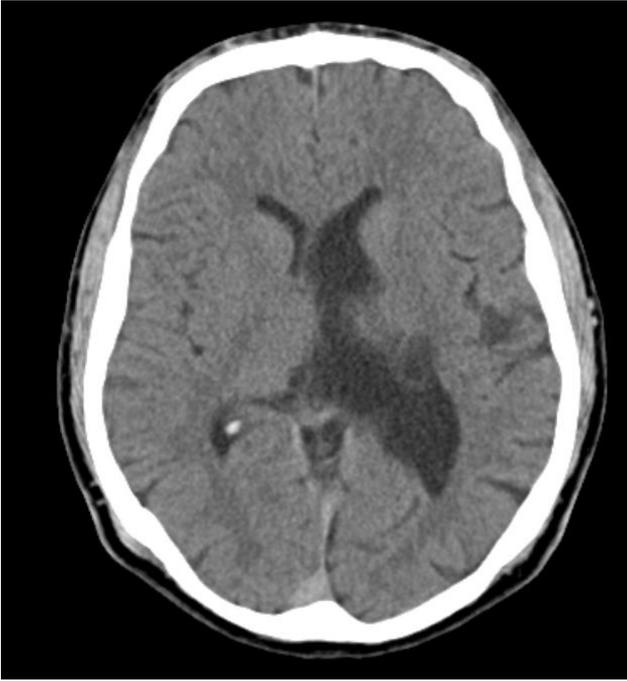
Cysts and cavities can cause a variety of symptoms. The symptoms of porencephaly vary depending on neuronal loss following cyst formation or the mass effect of the cyst itself (2). In the literature, psychiatric disorders such as seizures, visual, speech, and hearing impairments, rhinorrhea, otorrhea, schizophrenia, and psychosis have also been reported (9,10).

In diagnosis, Brain CT scan reveals an intracranial cyst with well-defined borders and central hypodensity attributed to cerebrospinal fluid. Mass effect on adjacent parenchyma is usually not observed, although very large cysts may locally cause such effect. Brain Magnetic Resonance Imaging (MRI), along with cerebrospinal fluid signal, may depict a well-defined cyst within the brain parenchyma covered by white matter. Neurosurgical treatment is reserved primarily for symptomatic patients, such as those with drug-resistant epileptic seizures. There

is no literature discussing treatment for asymptomatic porencephalic cases that require only monitoring (2).

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KARIN AĞRISININ NADİR BİR SEBEBİ: HARJOLA-MARABLE SENDROMU

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ÖZET

Giriş

Harjola-Marable Sendromu, Median Arkuat Ligaman'ın (MAL) çölyak artere kompresyonu sonucu oluşan bir hastalıktır. Genellikle postprandiyal karın ağrısı ile karakterizedir. Burada karın ağrısı nedeniyle acil servise başvuran ve bilgisayarlı tomografi (BT) anjiyografisi kullanılarak Harjola-Marable Sendromu tanısı alan bir vaka anlatılacaktır.

Olgu

47 yaşında kadın hasta acil servise şiddetli epigastrik karın ağrısı ile başvurdu. Abdominal oskültasyonda epigastrik bölgede dinlemekle üfürüm saptandı. BT anjiyografide proksimal çölyak arterde fokal daralma ile poststenotik dilatasyon ve çölyak arterin üst kısmında girinti görüldü (Şekil 1). Harjola-Marable Sendromu düşünüldü ve genel cerrahiye konsülte edildi. Genel cerrahi tarafından elektif laparoskopik cerrahi düşünülerek servise interne edildi.

Tartışma

Patofizyolojide sadece çölyak arterin kompresyonuna bağlı mezenterik iskemi değil aynı zamanda çölyak ganglion ve pleksusun basısına bağlı nörojenik sitümilasyonun da rol oynadığı düşünülmektedir. En spesifik tanı yöntemi BT anjiyografidir. Tedavide temel yaklaşım çölyak arter üzerindeki basının kaldırılmasıdır.

Sonuç

Tanıya ulaşmanın yolu önyargısız detaylı alınan bir anamnez, epigastrik bölgede ekspiryumda yükselen üfürüm ve şüphe halinde çekilen BT anjiyografidir.

Anahtar Kelimeler: Harjola-Marable Sendromu, median arkuat ligaman, çölyak arter

A RARE CAUSE OF ABDOMINAL PAIN: HARJOLA-MARABLE SYNDROME

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ABSTRACT

Introduction

Harjola-Marable Syndrome is a disease caused by compression of the Median Arcuate Ligament (MAL) into the celiac artery. It is usually characterized by postprandial abdominal pain. Here, we will describe a case who was admitted to the emergency department due to abdominal pain and diagnosed with Harjola-Marable Syndrome using computed tomography (CT) angiography.

Case

A 47-year-old female patient was admitted to the emergency department with severe epigastric abdominal pain. During abdominal auscultation, a murmur was detected in the epigastric region. CT angiography showed focal narrowing of the proximal celiac artery, poststenotic dilatation, and indentation in the upper part of the celiac artery (Figure 1). Harjola-Marable Syndrome was considered and general surgery was consulted. He was admitted to the ward by the general surgeon considering elective laparoscopic surgery.

Discussion

It is thought that not only mesenteric ischemia due to compression of the celiac artery but also neurogenic stimulation due to compression of the celiac ganglion and plexus plays a role in the pathophysiology. The most specific diagnostic method is CT angiography. The basic approach to treatment is to remove the pressure on the celiac artery.

Conclusion

The way to reach the diagnosis is an unbiased, detailed anamnesis, a murmur that rises with expiration in the epigastric region, and CT angiography in case of doubt.

Keywords: Harjola-Marable Syndrome, median arcuate ligament, celiac artery

GİRİŞ

Harjola-Marable Sendromu, diyafragmanın median arkuat ligamanının (MAL) çölyak artere basısı sonucu meydana gelen bir hastalıktır. Median Arkuat Ligaman Sendromu (MALS), Çölyak Arter Kompresyon Sendromu, Dunbar Sendromu isimleri ile de adlandırılmaktadır (1). Tipik olarak postprandiyal karın ağrısı, kilo kaybı ve epigastrik bölgede üfürüm triadı ile karşımıza çıkmaktadır. Genellikle diğer organik patolojiler dışlandıktan sonra tanı konulabilmektedir.

Yapılan çalışmalarda görülme sıklığı %10-24 olup, bunların sadece beşte birinde semptom oluşturmaktadır. Kadınlarda görülme sıklığı erkeklere göre dört kat daha fazladır. Genellikle 30-50 yaşları arasında ve zayıf bireylerde görülmektedir (2).

Fizik muayenede epigastrik bölgede üfürüm duyulabilir fakat bu hastalığa spesifik bir bulgu değildir ve her hastada duyulmayabilir. Tanıda ultrasonografi (USG), BT veya MR anjiyografi kullanılabilir. Günümüzde batın içi patolojileri de görebilmek için BT anjiyografi kullanımı daha yerinde olmaktadır.

Tedavide temel yaklaşım laparoskopik veya laparotomik cerrahi işlem ile ligamanın çölyak arter üzerindeki basısını ortadan kaldırmaktır.

OLGU

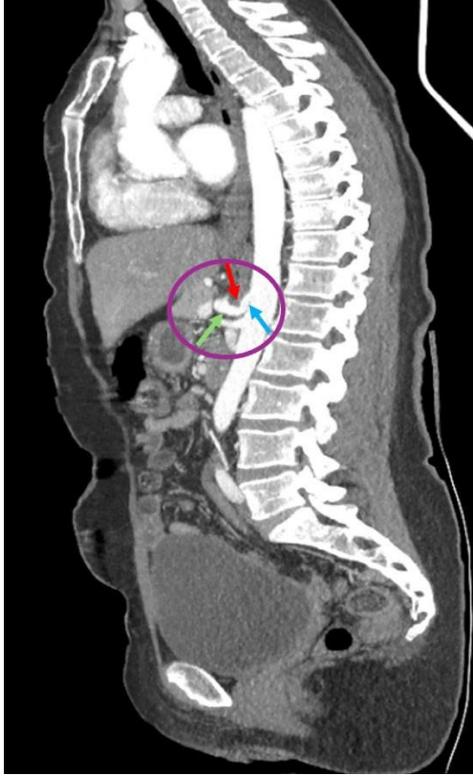
47 yaşında kadın hasta acil servise şiddetli epigastrik karın ağrısı ile başvurdu. Son 2.5 ayda yaklaşık 10 kg kilo verme öyküsü var. Ağrısı 10 yıldır var ve genellikle yemek yedikten sonra oluyor. Bu sebeple gastroenteroloji polikliniğine sık başvurusu mevcut. Endoskopi ve kolonoskopide patoloji saptanmamış. 6 yıl önce histerektomi öyküsü mevcut, başka ek hastalığı yok. Proton pompa inhibitörü (PPI) kullanıyor.

Fizik muayenede vital parametreleri stabil, GKS:15, bilinç açık, oryantasyon ve kooperasyon bozukluğu yok. Abdominal oskültasyonda epigastrik bölgede dinlemekle üfürüm saptandı.

Batın palpasyonu ile hassasiyet, defans, rebound saptanmadı. Diğer sistem muayeneleri olağan.

Acil serviste semptomatik PPI ve analjezi tedavisi ile rahatlama sağlanamadı. Alınan kan tetkiklerinde patoloji saptanmadı. Postprandiyal ağrısı olan ve oskültasyonda üfürüm duyulan

hastadan BT Anjiyografi istendi. BT anjiyografide proksimal çölyak arterde fokal daralma ile poststenotik dilatasyon ve çölyak arterin üst kısmında girinti görüldü (Şekil 1).



Şekil 1 Proksimal çölyak arterde fokal daralma (mavi ok), poststenotik dilatasyon (yeşil ok), çölyak arterin üst kısmında girinti (kırmızı ok).

Harjola-Marable Sendromu düşünüldü ve genel cerrahiye konsülte edildi. Genel cerrahi tarafından elektif laparoskopik cerrahi düşünülerek servise interne edildi.

TARTIŞMA

Harjola-Marable Sendromu, yapılan otopsi çalışmalarında sık oranda görülmekle birlikte günlük pratikte semptomatik hastalık çok nadir olup binde iki oranında rastlanmaktadır. MAL, psoas majör kası boyunca uzanan ve birinci veya ikinci lomber vertebranın medialinde sonlanan, diyafragmanın tendinöz bir yapısıdır. Aortanın ön yüzünü oluşturan MAL, çölyak arterin yukarısında bulunmaktadır. Anatomik olarak ligamanın aşağı yerleşimli ya da çölyak arterin yukarı yerleşimi sonucunda hastalık meydana gelmektedir. Ayrıca patofizyolojide sadece çölyak arterin kompresyonuna bağlı mezenterik iskemi değil aynı zamanda çölyak ganglion ve plexusun basısına bağlı nörojenik sitümilasyonun da rol oynadığı düşünülmektedir (3).

Klinik bulgular çölyak arterin kompresyonu ile ortaya çıkmaktadır. Özellikle en sık görülen semptomlar postprandiyal karın ağrısı, kilo kaybı, bulantı ve kusmadır. Semptomlar derin ekspiryumda diyafragmanın pozisyon değiştirmesi ile en üst seviyeye çıkar. Fizik muayene genellikle normaldir. Epigastrik bölgeden duyulan üfürümden başka fizik muayene bulgusu yoktur. Bu nedenle hastalar genellikle ilerleyen yaşlarda ve birçok başvuru sonrasında tanı almaktadır.

Tanıda doppler USG, BT anjiyografi veya MR anjiyografi kullanılabilir. En spesifik tanı yöntemi BT anjiyografidir. BT anjiyografideki bulgular, poststenotik dilatasyon ile proksimal çölyak arterde fokal daralma, çölyak arterin üst kısmındaki girinti ve çölyak arterin kanca şeklindeki konturudur (4).

Tedavide temel yaklaşım çölyak arter üzerindeki basının kaldırılmasıdır. Cerrahi olarak laparoskopik veya laparotomik MAL'ın kesilmesi ile genellikle tedavide başarı sağlanmaktadır. İşlem sonrasında arterdeki akım yeterli sağlanmazsa by-pass veya anjioplasti yöntemleri uygulanabilir (5).

SONUÇ

Harjola-Marable Sendromu, acil serviste tanısı zor konulan bir hastalıktır. Hastalar genellikle acil servis veya polikliniklere tekrarlayan karın ağrısı ile başvurmakta ve tanı alamamaktadır. Tanıya ulaşmanın yolu önyargısız detaylı alınan bir anamnez, epigastrik bölgede ekspiryumda yükselen üfürüm ve şüphe halinde çekilen BT anjiyografidir.

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Comparison of Emergency Department Stroke Admissions During the COVID-19 Pandemic Period with the Pre-Pandemic Period

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Introduction and Purpose: The SARS-CoV-2 type COVID-19 disease, which started in the city of Wuhan, China in December 2019, quickly spread worldwide and became a pandemic. Microbiological and radiological examinations are used for the diagnosis of COVID-19 infection. COVID-19 disease affects vascular structures and leads to diseases such as myocardial infarction, ischemic stroke, and venous circulation disorders due to vascular occlusion. In this study, we investigated the relationship between COVID-19 disease and patients diagnosed with ischemic stroke admitted to our emergency department. During this process, we compared the hematological and biochemical parameters of the patients.

Materials and Methods: Our study is a retrospective study, including adult patients aged 18 and over who presented to the emergency department of Manisa Celal Bayar Hospital with imaging-diagnosed or clinically suspected stroke during the pre-pandemic period from March 10, 2019, to March 10, 2020, and during the pandemic period from March 11, 2020, to March 11, 2021. All parameters were recorded by scanning patient files through the Hospital Information Management System (HIMS)

Results and Conclusion: 211 cases were included before the pandemic, while 224 cases were included during the pandemic. Both groups had a higher proportion of male patients. Among those before the pandemic, 150 and during the pandemic, 144 had at least one chronic illness. Ischemic stroke was diagnosed in 174 (82.5%) cases before the pandemic and 186 (83%) cases during the pandemic. Significant differences were observed in respiratory rates and ALT values between the groups. Statistically significant differences were also found in fever levels and respiratory rates based on COVID-19 status. COVID-19 particularly affects vascular structures,

leading to hypercoagulability, resulting in various conditions including stroke. Understanding the relationship between COVID-19 and stroke and investigating the mechanisms could be crucial for early diagnosis and implementing preventive measures such as anticoagulation to reduce morbidity and mortality in COVID-19 patients.

Keywords: Covid-19, stroke, pandemic

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Psoas Abscess Detected After Abdominal Imaging in a Patient Whose Findings Can Be Explained by Urinary System Infection

Introduction

Urinary tract infections (UTI) have an important place among the causes of emergency department (ED) admissions. UTI is the name given to bacterial colonisation of a part of the urinary tract and the inflammation that develops due to this. UTI can be classified as lower and upper UTI according to the infected part of the urinary tract; infections limited to the bladder are called lower UTI, while those involving infection and inflammation of the kidney tissue are called upper UTI or pyelonephritis. Fever, abdominal pain and dysuria are the most common symptoms in UTI patients, and when considered together with the incidence of the disease, the preliminary diagnosis of the ED physician is almost always UTI in patients presenting with these complaints (1,2).

Psoas abscess (PA) is a rare disease with high mortality and morbidity (3). Primary PA develops when infective pathogens reach the psoas muscle via haematogenous route and colonise there. Diabetes, acquired immunodeficiency syndrome, renal failure or any other cause of immunosuppression are predisposing factors for primary PA. Secondary PA develops when an infection in another tissue spreads to the psoas muscle. Pyelonephritis, intestinal or vertebral infections are important in the aetiology of secondary PA (3,4).

Case

87-year-old woman was admitted to the ED by ambulance with complaints of chills, shivering, abdominal pain, and general condition deterioration. It was learned that the patient had hypertension, coronary artery disease, congestive heart failure and was bedridden due to ischaemic stroke 3 years ago. The patient's relative stated that the patient had been using a urinary catheter continuously for 3 years and the catheter was last changed 3 days ago by home care services. The patient's arterial blood pressure was 90/58 mmhg, pulse rate was 122/min, fingertip oxygen saturation was 87% and body temperature was 37.3 °C. A detailed physical examination was performed. On admission, the patient was conscious but orientation and cooperation were limited. Respiratory sounds were normal, no pathological sound was heard. The

abdomen was distended and diffuse tenderness was found on abdominal examination. No signs of defence or rebound were found. Blood tests revealed WBC 6500/mm³, CRP 17 mg/dL, creatinine 0.7/mg/dL and procalcitonin 0.25 ng/mL. Urinalysis revealed abundant leucocytes, but nitrite was negative. The fluid coming from the urinary catheter had a pyuric appearance. In the light of the present laboratory and physical examination findings, UTI due to long-term catheterisation was considered. Contrast-enhanced abdominal tomography (CT) examination was planned to rule out possible intra-abdominal pathologies in the patient who was unable to express himself due to a history of stroke and had a septic appearance. CT scan showed a loculated fluid appearance in the left psoas muscle extending to the splenic neighbourhood and reaching extrarenal level in the axial plane (Image 1). The current appearance was interpreted in favour of abscess. Grade 3 hydronephrosis in the left kidney and a 2 cm stone in the ureter lumen were also detected. A nephrostomy catheter was inserted in the left kidney by the interventional radiology department. It was observed that purulent content was coming from the catheter. The patient was consulted with the departments of general surgery, urology and infectious diseases for further hospitalisation and treatment. The joint decision of the departments was to intern the patient in the intensive care unit and to give antibiotherapy. Since there was no available intensive care bed in our hospital, the patient was referred to another hospital.

Discussion

The classical triad of PA symptoms includes fever, flank pain and limitation in hip movements, but a few patients have these three symptoms together. In most patients with PA, the symptoms are not sensitive or specific; therefore, the diagnosis of PA is either made incidentally or delayed after the picture worsens (4,5,6). Our patient had a long history of urinary catheterisation suggesting the diagnosis of UTI in the foreground. Abdominal pain and fever are frequently observed complaints in UTI. Elevated CRP, an inflammatory marker, and pyuria also make UTI an appropriate prediagnosis. The nature of the pain and its relation with body movements are not known in the patient who cannot express herself and cannot be co-operated because of a previous stroke. The absence of defence or rebound findings leads us away from the diagnosis of acute abdomen. At this point, initiation of appropriate antibiotherapy and hospitalisation with the diagnosis of UTI would not be considered a wrong practice. However, in patients who cannot express themselves due to reasons such as Alzheimer's disease, neurodegenerative diseases and previous stroke, anamnesis and physical examination may not be sufficient to

reach the diagnosis. In these patients, imaging modalities will allow the detection of many pathologies that may be missed. The gold standard diagnostic method in the diagnosis of PA is CT. The diagnosis of PA in our patient was made in this way.

In the development of PA, spread of infection of the surrounding tissues to the psoas muscle is also effective in addition to haematogenous pathogens (3,4). In our patient, it was thought that the current clinical picture developed with the spread of an infection originating from the urinary system to the psoas muscle. Long-term urinary catheterisation contributed to the development of UTI in our patient, but another predisposing factor was urinary tract calculi (UTC) with a diameter of 2 cm in the ureter. UTC causes stasis in the urinary system by preventing or slowing down urine outflow, which predisposes to UTI (7).

Antibiotherapy is indicated in the treatment of PA and abscess drainage is performed in appropriate patients (8). In our patient, a nephrostomy catheter was inserted because of grade 3 hydronephrosis, but the psoas abscess was not drained. Follow-up with antibiotherapy was found to be sufficient in the first evaluation.

Conclusion

PA is a disease with non-specific or non-sensitive symptoms and is often diagnosed incidentally or delayed. In patients who are unable to express themselves, in poor general condition, and in a frail state, physical examination and laboratory findings, as well as imaging tests to be ordered, will prevent the diagnosis of PA from being missed or delayed. Prevention of delay in diagnosis and early treatment will prevent mortality and morbidity due to PA.

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Eş Zamanlı Serebrovasküler Olay ve Pulmoner Tromboemboli: Nadir Görülen Bir Olgu Sunumu ve Yönetimi

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Özet

Giriş

İskemik inme vasküler nedenler dışında bir neden olmaksızın fokal serebral fonksiyon kaybı ile ortaya çıkan klinik bir durumdur. İnmelerin yaklaşık %87'sini iskemik inmeler oluşturmaktadır. Pulmoner Tromboemboli (PTE), derin ven trombozunun erken komplikasyonlarından biri olup hayatı tehdit eden akut bir klinik tablodur. Toplumda sık görülen önemli bir sağlık problemi olan PTE nin insidansı yaklaşık 23-2697/100000 civarındadır. Serebrovasküler Olay (SVO) ve PTE nadir görülmekle birlikte bu tanıların eş zamanlı olarak saptandığı hastaların insidansı bilinmemektedir.

Olgu

65 yaşında bilinen hipertansiyon (HT) ve morbid obezite tanılı kadın hasta 4 gündür olan göğüs ağrısı, çarpıntı ve öksürük şikâyeti ile dış merkez acil servise başvurdu. Dış merkez acil serviste yapılan tetkiklerde Elektrokardiyogram (EKG) atriyal fibrilasyon ile uyumlu olan hastanın yapılan kan tetkiklerinde kardiyak enzimlerinde yükseklik olması üzerine Akut Koroner Sendrom (AKS) ön tanısı ile acil servisine sevk edildi. Acil serviste tam monitörize olarak takip edilen hastada ani başlangıçlı konfüzyon, sol ekstremitelerde güçsüzlük (kas gücü 0/5 olarak değerlendirildi.), sol santral fasial paralizi ve dizartri gelişmesi üzerine SVO ön tanısıyla santral görüntüleme yapıldı. Eş zamanlı SVO ve PTE saptanan hasta servis takiplerinin 8. gününde tedavisi tamamlanan hasta oral antikoagülan reçetesi düzenlenerek şifa ile taburcu edildi.

Tartışma

Bu olgu raporu, nadir görülen ancak klinik açıdan önemli olan eş zamanlı SVO ve PTE birlikteliğini sunmaktadır. Hem SVO hem de PTE, ciddi morbidite ve mortalite ile ilişkilendirilen acil durumlar olup, her ikisi de vasküler patofizyolojinin farklı yönlerini temsil etmektedir. Yapılan kardiyak tetkiklerde AF saptanmış olup hastanın daha öncesinde HT tanısının olmasıyla tromboembolik olayların riskinin daha da arttığı düşünülebilir.

Sonuç

Bu olgu raporu, nadir görülen ancak ciddi sonuçlara yol açabilen eş zamanlı SVO ve PTE birlikteliğini, bu tür vakalarda, erken tanı, uygun tedavi ve multidisipliner yaklaşımın önemi vurgulanmaktadır. Hastaların takibi ve tedaviye yanıtın izlenmesi, olası komplikasyonları önlemek ve hastaların sağ kalımını artırmak için hayati öneme sahiptir.

Anahtar Kelimeler: Pulmoner emboli, serebrovasküler olay, atrial fibrilasyon

Concurrent Cerebrovascular Event and Pulmonary Thromboembolism: A Rare Case Report and Management

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Abstract

Introduction

Ischemic stroke is a clinical condition that occurs with focal loss of cerebral function without any cause other than vascular causes. Approximately 87% of strokes are ischemic strokes. Pulmonary Thromboembolism (PTE) is one of the early complications of deep vein thrombosis and is a life-threatening acute clinical picture. The incidence of PTE, which is a common and important health problem in the community, is approximately 23-2697/100000. Although Cerebrovascular Event (CVE) and PTE are rare, the incidence of patients with these diagnoses simultaneously is unknown.

Case

A 65-year-old woman with known hypertension (HT) and morbid obesity was admitted to the emergency department of an external center with complaints of chest pain, palpitations and cough for 4 days. Electrocardiogram (ECG) was compatible with atrial fibrillation in the tests performed in the outpatient emergency department and she was referred to the emergency department with a prediagnosis of Acute Coronary Syndrome (ACS) due to elevated cardiac enzymes in blood tests. The patient was followed up in the emergency department with full monitoring. Upon the sudden onset of confusion, weakness in the left extremities (muscle strength was evaluated as 0/5), central facial paralysis and dysarthria, central imaging was performed with a prediagnosis of CVE. Simultaneous CVE and PTE were detected and the patient was discharged with recovery on the 8th day of the follow-up period after oral anticoagulant prescription.

Discussion

This case report presents a rare but clinically important coexistence of simultaneous CVE and PTE. Both CVE and PTE are emergencies associated with severe morbidity and mortality, and both represent different aspects of vascular pathophysiology. Cardiac investigations revealed AF and the patient had a previous diagnosis of HT, which may have increased the risk of thromboembolic events.

Conclusion

This case report highlights the rare but serious co-occurrence of simultaneous CVE and PTE, emphasizing the importance of early diagnosis, appropriate treatment, and a multidisciplinary approach in such cases. Monitoring patients and assessing their response to treatment are vital to prevent potential complications and improve patient survival.

Keywords: pulmonary embolism, cerebrovascular accident, atrial fibrillation

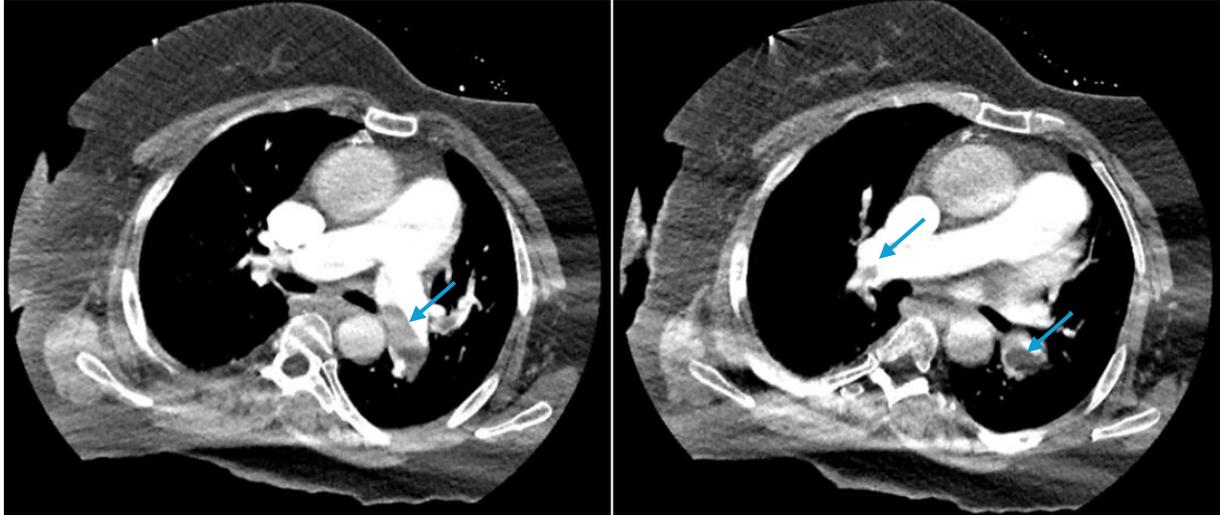
Giriş

İskemik inme vasküler nedenler dışında bir neden olmaksızın fokal serebral fonksiyon kaybı ile ortaya çıkan klinik bir durumdur. Semptomlar geçici iskemik ataktan farklı olarak 24 saatten

saptandı. Segmenter ve subsegmenter dallar kesit yetersizliği nedeniyle değerlendirilemedi. Eş zamanlı SVO ve PTE saptanan hastaya dış merkezde Düşük Molekül Ağırlıklı Heparin (DMAH) uygulandığı için nöroloji tarafından trombolitik tedavisi başlanamadı. Girişimsel Radyoloji tarafından başarılı mekanik trombektomi işlemi yapıldı ve komplikasyon gelişmedi. Göğüs hastalıkları tarafından PTE açısından değerlendirilen heparin infüzyonu önerilen hasta yoğun bakım ünitesine yatırıldı. Servis takiplerinin 8. gününde tedavisi tamamlanan hasta oral antikoagülan reçetesi düzenlenerek şifa ile taburcu edildi.



Şekil 2. Kontrastsız Beyin BT'de dens MCA sing (kırmızı ok)



Şekil 3. Beyin - Karotis BT Anjio görüntülemesinde kesitlere giren bilateral pulmoner arterlerde kontrast dolum defekti (mavi ok)

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Exposure to aluminum phosphide through respiratory route

INTRODUCTION

Aluminum phosphide (ALP) is a rodenticide and insecticide used in pest control during grain storage (1). ALP is utilized in the form of clay-emulsified aluminum phosphide tablets (2). Solid ALP reacts with moisture in the air or water in the environment, releasing phosphine gas, which is originally responsible for its toxicity (3). Upon contact with gastric fluid following oral ingestion, the release of this PH₃ gas typically produces a characteristic garlic odor (2). There is no specific antidote for ALP poisoning, and mortality rates are quite high (4). Toxic dose is above 150 mg, and lethal dose is above 1000 mg (5). While most cases of ALP poisoning reported in the literature are due to intentional oral ingestion, toxicity can also occur accidentally through inhalation, although respiratory-related ALP intoxications are rare (1, 6).

This case presentation describes a case of ALP poisoning through respiratory exposure presenting to the emergency department.

CASE

A 21-year-old female patient presented to our emergency department with chest pain. In her history, it was revealed that four days prior to her presentation, she was exposed to aluminum phosphide through inhalation while with her family, which led to her presenting to the emergency department with this complaint. Subsequently, she was admitted to the Intensive Care Unit for observation but left against medical advice on the 3rd day of her stay. The patient's general condition was fair, and her vital signs were stable. Physical examination was unremarkable. Her electrocardiogram showed normal sinus rhythm with no other pathological findings detected. Laboratory values from her complete blood count were as follows: hemoglobin 11.4 g/dL, hematocrit 35.4%, white blood cell count $5.76 \times 10^3/\mu\text{L}$, and platelet count $237 \times 10^3/\mu\text{L}$. Biochemical tests revealed normal levels of aspartate aminotransferase (14 U/L), alanine aminotransferase (20 U/L), blood urea nitrogen (9 mg/dL), and creatinine (0.57 mg/dL). Serum ethanol level was <10 mg/dL, international normalized ratio (INR) was 1.06, and high-sensitive troponin was within normal limits at 5.11 ng/L. Venous blood gas

analysis showed partial pressure of carbon dioxide (PCO₂) of 37.8 mmHg, partial pressure of oxygen (PO₂) of 37.6 mmHg, carboxyhemoglobin (COHb) of 1.4%, bicarbonate (HCO₃) of 26.3 mmol/L, lactate of 1.3 mmol/L, and a pH of 7.451. Chest X-ray revealed no abnormalities. Echocardiography showed no pathology, and cardiac-related chest pain was not considered. Despite no pathology detected during follow-up in the emergency department and resolution of her symptoms, the patient chose to leave the emergency department against medical advice without further observation.

DISCUSSION

Following the first reported cases of intoxication in the 1980s, ALP has become a commonly used agent for suicide, particularly among individuals involved in agriculture (4). While it is seen as the second most common cause of organophosphate poisoning, most cases result from intentional oral ingestion for self-harm purposes, although toxicity can rarely occur due to respiratory exposure as well (1, 2, 6).

ALP is a colorless and odorless substance in its natural state. When combined with hydrochloric acid in the stomach, it releases phosphine gas, which is lethal, and is rapidly absorbed from the gastrointestinal system (GIS) (1, 7-9). When phosphine gas, produced by the moisture layer formed on phosphide, is inhaled, it is quickly absorbed from the lungs (4). Exposure to phosphine gas at concentrations above 50 ppm in ambient air or at a dose of 1400 mg/m³ for 30 minutes can be fatal (6, 10). Phosphine gas disrupts oxidative phosphorylation by inhibiting the cytochrome-c oxidase enzyme and causes tissue damage via free oxygen radicals (11).

Since there is no specific laboratory test for diagnosis of ALP poisoning, clinical suspicion and history of drug intake are crucial (4). The gastrointestinal system, respiratory system, heart, and kidneys can be affected (7-9). Symptoms that may occur in patients include nausea, vomiting, dysphagia, abdominal pain, palpitations, shock, cardiac arrhythmias, pulmonary edema, dyspnea, cyanosis, and sensory changes, which can develop within a few hours after ingestion (2). In our case, the primary complaint during both initial and subsequent presentations was chest pain.

The amount and form of intake, the purpose of intake (accidental or intentional), and the timing of presentation to medical care are factors that influence the clinical course of ALP poisonings.

While mortality is low in accidental ingestions, it can rise up to 85% in intentional ingestions, especially among young adults. Early complications often include cardiovascular collapse, pulmonary edema, acute respiratory distress syndrome, central nervous system depression, and coma, whereas late complications involve hepatotoxicity and nephrotoxicity (1).

Less common complications include intravascular hemolysis, acute adrenal insufficiency, pancreatitis, hypo-hyperglycemia, hypo-hypermagnesemia, methemoglobinemia, microangiopathic hemolytic anemia, and disseminated intravascular coagulation (12). In our patient, however, no complications related to ALP poisoning were detected.

Early presentation and prompt initiation of treatment are associated with a good prognosis, while treatment-resistant hypotension and acidosis are indicators of a poor prognosis. In early-stage ALP poisonings following oral ingestion, gastric lavage and administration of activated charcoal are crucial for survival. However, in cases of poisoning due to respiratory exposure, supportive therapies constitute the mainstay of treatment. The first step in treatment is intravenous hydration, with aggressive fluid resuscitation being the most important aspect of treatment in patients with unstable hemodynamics.

In cases where fluid therapy is ineffective, vasoactive agents such as norepinephrine, phenylephrine, dopamine, and dobutamine are added to the treatment regimen. Studies have shown that the early use of inotropes may not be very beneficial and may even increase myocardial oxygen consumption and arrhythmia frequency. Due to the prominent role of free oxygen radicals in ALP poisoning, antioxidant drugs such as N-acetylcysteine (NAC), calcium gluconate, pralidoxime, trimetazidine, and magnesium sulfate have been suggested to be beneficial in treatment.

In the literature, treatments such as hemodialysis, hemodiafiltration, and extracorporeal membrane oxygenation have been applied in limited cases. Cases benefiting from continuous renal replacement therapy and extracorporeal membrane oxygenation have also been reported. In some cases where intravenous fluid and inotropic therapies are ineffective, intra-aortic balloon pump has been used.

CONCLUSION

In cases of ALP poisoning, which carry a high mortality rate, a thorough history of drug intake should be carefully considered. It is essential to remember that clinical suspicion plays a crucial role in diagnosis, and early treatment can increase survival rates.

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The Role Of COPD Scales (Bap-65, Decaf And Decaf-L) In Predicting Mortality And Morbidity In Patients With COPD Who Apply To The Emergency Department

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Introduction and Purpose

There are many COPD patients who apply to emergency departments with shortness of breath (1). In this study, we aimed to demonstrate the roles of BAP-65, DECAF and DECAF-L scores in predicting morbidity and mortality in order to provide effective and rapid service.

Materials and Methods

Our study is a prospective study and was conducted by recording 200 patients with COPD who applied to Manisa Celal Bayar University Faculty of Medicine Hospital Emergency Service between 01 May 2022 and 01 May 2023. Patients who met the inclusion criteria were included in the study and their BAP-65, DECAF and DECAF-L scores were calculated. The outcome of the patients, their readmission within 1 month after the outcome, and their mortality were monitored and recorded.

Results and Conclusion

200 patients were included in study. Significant differences were detected between the outcome type of the patients (discharge, ward or intensive care admission) and BAP-65, DECAF and DECAF-L scores ($p < 0.001$ for each). In our study, a significant difference was found between lactate value and patients who died in the last month ($p = 0.004$). A significant difference was detected between the DECAF-L score, which was obtained by adding the lactate value to the DECAF score, and exitus within 1 month after the emergency department (AUC=0.653; $p=0.039$).

COPD is among the leading causes of mortality and morbidity in the world (2). We found that the rate of admission to intensive care or wards for patients with high BAP-65 or DECAF scores

increased compared to discharges. A significant difference was detected between the DECAF-L score and exitus within 1 month after the emergency department ($p=0.039$). We also found significant differences between the DECAF-L score and the outcome of the patients in terms of hospitalization or discharge ($p<0.001$).

The use of BAP-65, DECAF and DECAF-L scores will facilitate the discharge and hospitalization planning of COPD patients applying to emergency departments (3, 4). We also believe that it would be beneficial to increase the use of the DECAF-L score, which has been found to be effective in predicting mortality, in emergency departments.

Keywords: COPD, ED, mortality.

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Bilateral Intraparenchymal Brain Hemorrhage Due To Hypertension

Introduction: Hypertension is a major risk factor for both cerebral infarctus and intracranial hemorrhage. There is a continuous, gradual and consistent relationship between blood pressure and stroke risk. As blood pressure increases, even if not in the hypertensive range, the risk of stroke also increases. preventing ischemic and hemorrhagic stroke.

Purpose: Simultaneous multiple hypertensive intracranial hemorrhage is rare and its mechanism is unclear. By systematic search in PubMed, we found 41 cases of concurrent bilateral hypertensive putaminal or thalamic hemorrhage: 18 with bilateral putaminal, 12 with bilateral thalamic, and 11 with unilateral putaminal and contralateral thalamic hemorrhage. However, since we rarely encounter cases of bilateral intraparenchymal hemorrhage, we aimed to demonstrate this with our own case.

Case: A 45-year-old male patient was admitted to the emergency department with complaints of foaming at the mouth, convulsions, and tremors. The most effective strategy is hypertension treatment. There is no feature in his medical history other than hepatitis. He uses no medication. There is no alcohol or substance use. The blood pressure measured at admission to the emergency department was 210/120 mm/Hg, and the ECG showed normal sinus rhythm. On neurological examination, the person is confused, uncooperative, sometimes disoriented, there is no anisocoria, IR: +/+, and there is meaningful verbal output. All four limbs have spontaneous movement. Bilateral intraparenchymal hematoma was observed in the brain tomography. No aneurysmatic dilatation was observed in the brain computed tomography angiography examination. According to neurosurgery consultation, mass bleeding was not considered.

Discussion: Brain hemorrhages are mainly seen in the putamen central substance in the brainstem, temporal lobe, parietal lobe or frontal lobe, thalamus, cerebellar hemisphere and pons region. Intracranial hemorrhages due to hypertension are most commonly seen in the basal ganglia. Bilateral intraparenchymal bleeding is extremely rare; an underlying cause is sought. In our patient, there was no underlying cause. Bilateral intraparenchymal bleeding was detected.

Key words: Hypertensive. intraparenchymal, Bleeding.

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A Patient With Cardiac Metastasis In The Right Ventricle Admits To The Emergency Department With Dyspnea; A Case Analysis

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Introduction

Tumors of primary cardiac origin are extremely rare, with some estimates placing the incidence between 0.001% and 0.28%. Although metastatic cancers to the heart are more common, the most common types are pleural mesothelioma, melanoma and lung carcinomas (1). Hepatocellular carcinoma (HCC) is the most reported primary tumor of the liver, accounting for 90% of all liver malignancies. It is the second leading cause of cancer-related deaths in the World (2). In advanced stages, it can also spread to the liver and portal veins and metastasize directly to the right atrium of the heart. This is extremely rare and some studies suggest that the incidence of direct invasion into the heart may be as low as 1-4% (3,4,5,6).

Hepatocellular carcinoma (HCC) metastasizes mainly within the confines of the liver. Metastases to the heart from other carcinoma sources are not uncommon, but solitary cardiac metastases from HCC are rare and have a poor prognosis, due in part to the lack of standardized treatments.

Case Report

A 70-year-old female patient came with a complaint of shortness of breath that had been going on for a day. He also had impaired communication following shortness of breath. Known hypertension, diabetes, chronic renal failure, heart failure and hepatocellular carcinoma with lung, bone and heart metastasis. Diagnosed with Hepatocellular carcinoma in July 2022. The patient used immune checkpoint inhibitors such as Nivolumab and Ipilimumab. When the patient came to the emergency room, Oxygen saturation (SpO₂) = 84%, pulse=110/min, fever=37, Respiratory Rate: 22/min, arterial blood pressure=126/74 mmHg, fingertip blood sugar=113mg/dl. On physical examination, the patient's general condition was moderate, Glasgow Coma Scale: 12 (Verbal3, Motor5, Eye4), the patient was agitated, and her speech was a few words repeated. Breath sounds were rough in the lower regions bilaterally. Heart sounds were rhythmic, no additional sounds or murmurs were heard. Abdominal examination was

comfortable, no guarding or rebound was detected. There were two positive(++) pretibial edema bilaterally. In laboratory findings were, Urea: 79mg/dl, Blood Ure Nitrogen: 37mg/dl ,Creatinine: 1.15mg/dl ,eGFR: 48ml/min, Calcium: 7.3mg/dl, White Blood Cell: $3.57 \times 10^3/uL$, Hemoglobin: 9.9 g/dl , Troponin-I: 32.2 ng/L, B-type Natriuretic Peptide: 300.7 ng/L, Mass CK-MB: $<0.2 \mu g/L$, D-DIMER: 7430ng/mL, CRP: 86.43 mg/L. As for imaging, Tomography could not be taken at first because the patient could not lie flat, but a portable lung x-ray was taken. The radiograph showed obvious signs of effusion in the right lower regions.

We started the patient with furosemide infusion at a rate of 20 milligrams (mg) per hour. Additionally, haloperidol 10 mg Intramuscular and biperiden 5 mg Intramuscular were administered intermittently to control the patient's agitation. Subsequently, chlorpromazine 12.5 mg Intramuscular was administered to the patient for sedation and Paracetamol vial Intravenous was administered to the patient whose fever increased during follow-up. Afterwards, we requested brain computed tomography (CT) + diffusion magnetic resonance imaging (MRI) and contrast-enhanced cranial MRI as imaging. In the radiological reports of the imaging studies, it was seen that no acute pathology was observed in brain CT and cranial MRI. However, due to the interpretation of diffusion MRI that there was millimetric diffusion restriction in the left parietal, which was not clinically relevant, suggesting cardioembolic nature, 6000 IU low molecular weight heparin was administered subcutaneously to the patient (Figure 2).

Afterwards, the patient was consulted to Internal Medicine and Neurology for hospitalization. The patient was admitted to the Medical Oncology service for follow-up.

Discussion

The most common mechanism by which tumor cells spread to the heart is hematogenous spread through the coronary arteries. Cardiac metastasis should be considered if cardiomegaly and heart failure symptoms occur during the clinical follow-up of a case with carcinoma (6).

Acute Pulmonary edema; It can be defined as an increase in pulmonary blood pressure or deterioration in capillary permeability, resulting in fluid passage to the interstitial space and alveoli, and impaired oxygenation of blood in the lungs. There are three basic mechanisms in the etiology of pulmonary edema. These mechanisms can be classified as disruption of the Frank-Starling equation, impairment of alveolar-capillary membrane stabilization, and lymphatic insufficiency.

In this case report, we discussed the acute pulmonary edema we encountered in a patient with preserved ejection fraction with a known history of cardiac metastasis.

The patient's advanced age, existing chronic and comorbid diseases, and the presence of metastases to the right ventricle and pulmonary artery also worsen the clinical symptoms. The relationship between the pulmonary edema that developed in our patient and the dysfunction in the right ventricle, in which a mass extending to the pulmonary artery was formed, is left open to discussion.

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Keywords: Cardiac metastasis, Pulmonary edema, Emergency

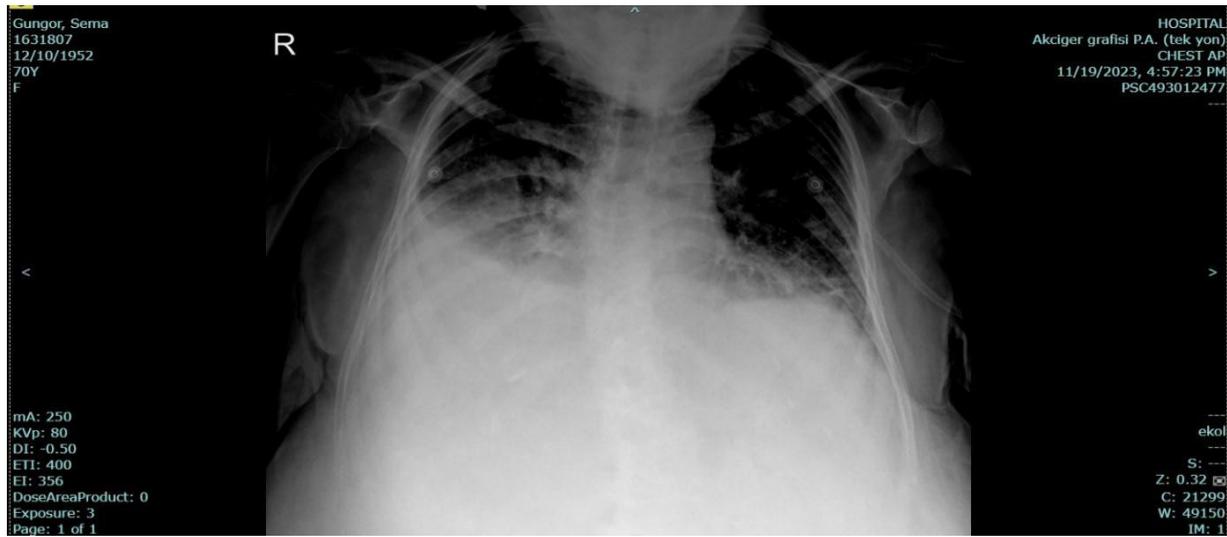


Figure 1. Portable Posteroanterior lung film of the patient taken in the emergency room



Figure 2. mass lesion of 50x41x37 mm in size showed contrast enhancement

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A COMPARATIVE STUDY ON THE EFFICACY OF DEXKETOPROFEN AND METHYLPREDNISOLONE IN THE TREATMENT OF ACUTE LOW BACK PAIN

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Abstract:

Objective: Many methods are used in the treatment management of low back pain. In this study, we aimed to investigate the efficacy of dexketoprofen alone and in combination with methylprednisolone in the treatment of low back pain in the emergency department, using the Visual Analog Scale (VAS) and the Oswestry Disability Index (ODI).

Material and Method: This study was conducted in a prospective, randomized, single-blind manner with 150 patients at the emergency department of a university hospital. Patients with low back pain were examined in two groups: those receiving intravenous dexketoprofen treatment (Group D) and those receiving dexketoprofen + methylprednisolone treatment (Group DM). The efficacy of the treatments received by the patients was evaluated with the VAS at minutes 0, 15, 30, and 60 and hour 48. Statistical evaluations were also undertaken on the ODI results evaluated at minute 0 and hour 48.

Results: The VAS scores decreased in both groups at all follow-up evaluations performed throughout the treatment ($p < 0.05$). The mean VAS score evaluated 48 hours after treatment was 1.69 ± 1.71 cm in Group DM and 4.13 ± 2.27 cm in Group D ($p = 0.000$). The decrease in the ODI score was greater in Group DM than in Group D ($p = 0.000$).

Conclusion: Dexketoprofen showed analgesic efficacy in the treatment of non-traumatic low back pain and decreased disability. When combined with methylprednisolone, dexketoprofen treatment exhibits a greater analgesic effect and further reduces disability.

Keywords: Low back pain, Dexketoprofen, Methylprednisolone, Visual Analog Scale, Oswestry Disability Index.

Introduction

Low back pain is a common health problem across the world. Despite being commonly perceived as an insignificant symptom among individuals and society, low back pain is a prevalent health issue that can have serious implications in terms of both health expenses and loss of workforce (1-3).

Various factors can contribute to the occurrence of low back pain. In order to ensure accurate and effective treatment, the causes of low back pain must be determined through a comprehensive assessment that includes medical history, physical examination findings, and, if necessary, radiographic imaging findings (4). The treatment of lumbar pain requires a multidisciplinary approach (5). Non-pharmacological, pharmacological, minimally invasive interventions, or surgical methods are recommended depending on the patient's clinical findings and the red or yellow flag signs specified by the relevant guidelines (6). Non-pharmacological therapeutic modalities include massage, acupuncture, hot-cold applications, psychotherapies, yoga, Tai Chi, movement control exercises, spinal manipulation therapy, exercise therapies, and gradual activity programs (7-12). Muscle relaxants, non-steroidal anti-inflammatory drugs (NSAIDs), opioids, tricyclic antidepressants (TCAs), and antiepileptic drugs are used in pharmacological treatment (13-16).

In this study, we aimed to investigate the efficacy of dexketoprofen alone and in combination with methylprednisolone in the treatment of low back pain in the emergency department, using the Visual Analog Scale (VAS) and the Oswestry Disability Index (ODI).

1. Material and Method:

1.1 Study Design and Setting

This study was conducted as a prospective, randomized, single-blind study at the emergency department of a university hospital from August 1, 2021, through August 1, 2022. The analgesic efficacy of intravenous dexketoprofen (Arveles©) and dexketoprofen + methylprednisolone (Arveles© + Precort©) was compared in patients with low back pain. The study was initiated after receiving approval from the Clinical Research Ethics Committee of the Atatürk University Faculty of Medicine (date: June 24, 2021, decision number 286). Patients were accepted into the study after obtaining informed consent from them or their relatives based on voluntariness. The study protocol followed the tenets of the Declaration of

Helsinki.

1.2 Sample Size and Patients

G-Power 3.1 software was used to calculate the sample size required for the study. The sample size was calculated using a medium effect size of 0.5, a type 1 error of 0.05, and a power value of 0.80. As a result, the required sample size was determined to be at least 62 patients in each group, considering the possibility of a 10% loss. A total of 150 volunteer patients, 75 in each group, were included in the study.

Patients aged over 18 and under 65 years who presented to the emergency department with acute non-traumatic low back pain and agreed to participate in the study were evaluated for eligibility. Excluded from the study were patients who had used analgesics within the last six hours; those with neurological deficits, cardiac or chest pain, liver, kidney, cardiac or pulmonary failure, chronic pain, a history of dexketoprofen-related gastrointestinal bleeding or perforation, referred pain, neoplastic pain, a history of allergies to medications used in the study (methylprednisolone and dexketoprofen), or vision problems; those who indicated a pain intensity of 3 cm or less on the 10-cm VAS scale line at the time of their presentation to the emergency department; pregnant and breastfeeding women; and patients who were illiterate.

1.3 Randomization and Primary Outcome

The patients were divided into two groups: the dexketoprofen-administered group (Group D) and the dexketoprofen + methylprednisolone-administered group (Group DM). The patients were allocated to the medication groups based on the patient scale generated on the website <https://www.randomizer.org/#randomize>. The patients were not informed of their assigned group. The primary outcome of the study was the pain scores of the groups according to the VAS scores. The secondary outcome was the effect of dexketoprofen alone and in combination with methylprednisolone on low back pain-related disability, according to the ODI scores.

1.4 Study Variables and Intervention

The patients participating in the study were evaluated in the yellow triage category. After a systemic examination, a 16-gauge intravenous catheter was inserted into the patient by an experienced nurse. Before administering the assigned drug intravenously, a 10-cm VAS evaluation was undertaken as a standard method proven to be reliable in measuring the severity of low back pain. The VAS was explained to volunteer patients in detail, and they were asked to self-evaluate on a scale of 0 to 10, with 0 indicating the absence of any pain and 10 cm representing the most severe pain. The patients were also asked to complete the ODI

questionnaire before starting treatment and 48 hours after treatment. Using this scale, the patients' pain intensity, personal care, lifting, walking, sitting, standing, sleeping, sexual life, social life, and traveling were questioned. Each criterion was scored on its own and evaluated out of 100 points. Treatment was started after the patients self-evaluated their VAS scores. The VAS and ODI scores of the patients were recorded at minute 0, referring to the start of treatment. The vital signs of the patients were routinely obtained at minutes 15, 30, and 60 and were kept under close monitoring for possible complications. During this period, the VAS scores were also questioned and recorded at minutes 15, 30, and 60. After the follow-up and treatment in the emergency department, the patients were discharged and asked to return to the emergency department for re-evaluation 48 hours later. When the patients arrived at the emergency department, their 48th-hour VAS scores and ODI scores were questioned. Group D was intravenously administered 50 mg of dexketoprofen in 100 ml of physiological saline for 30 minutes. Group DM was intravenously administered 50 mg of dexketoprofen plus 1 mg/kg of methylprednisolone in 100 ml of physiological saline for 30 minutes. All patients' VAS scores were evaluated at minutes 0, 15, 30, and 60 and hour 48; their ODI scores were evaluated at minute 0 and hour 48; and their vital signs were evaluated at minutes 15, 30, and 60. These data were then compared using statistical methods.

1.5 Statistical Analysis

The obtained data were transferred to the computer environment and analyzed using the SPSS v. 25.0 (SPSS, Inc., Chicago, IL) package program. Data were presented as mean, standard deviation, median, minimum, maximum, percentage, and number. The normality of the distribution of continuous variables was examined with the Shapiro-Wilk W test when the sample size was <50 , and the Kolmogorov-Smirnov test when the sample size was ≥ 50 . In comparisons between two independent groups, the independent-samples t-test was used if the normal distribution condition was met, and the Mann-Whitney U test was used otherwise. In 2x2 comparisons between categorical variables, the Pearson chi-square test was conducted if the expected value was >5 , the chi-square Yates test if the expected value was between 3 and 5, and the Fisher's exact test if the expected value was <3 . For comparisons between categorical variables larger than 2x2, the Pearson chi-square test was employed when the expected value was >5 , and the Fisher-Freeman-Halton test was used when the expected value was <5 . $P < 0.05$ was considered statistically significant.

2. Results

3.1. Patient populations and characteristics

Treatment was applied to 178 patients who presented to the emergency department; however, 28 patients were excluded from the study since they did not visit the emergency department at the 48th hour. As a result, 150 patients were included in the sample. The demographic and characteristic features of the patients are given in Table-1. Male patients constituted 65.3% of the patients in Group D and 54.7% of those in Group DM. The mean age was 34.89 ± 10.92 years for Group D and 40.84 ± 10.93 years for Group DM. In Group D, the mean systolic blood pressure was 129.35 ± 17.36 mmHg, the mean diastolic blood pressure was 81.89 ± 12.49 mmHg, the mean respiratory rate was 15.2 ± 1.79 per minute, the mean oxygen saturation was $94.85 \pm 2\%$, and the mean pulse was 89.64 ± 16.95 per minute, while for Group DM, these values were determined to be 126.73 ± 16.66 mmHg, 76.17 ± 12.11 mmHg, 17.24 ± 9.65 per minute, $94.69 \pm 2.56\%$, and 82.28 ± 12.92 beats per minute, respectively.

3.2. Comparison of groups

The pain sensations of patients who presented to the emergency department with complaints of non-traumatic low back pain were evaluated using the VAS. The mean baseline (minute 0) VAS scores of Group D and Group DM were 8.12 ± 1.59 and 7.49 ± 1.81 cm, respectively. Accordingly, the VAS score of the patients in Group D was significantly higher than that of those in Group DM at baseline ($p = 0.032$). The VAS scores evaluated during the follow-up period after starting treatment exhibited a decrease in both groups ($p < 0.05$ in all follow-up evaluations). The mean VAS score evaluated 48 hours after treatment was 1.69 ± 1.71 cm for Group DM and 4.13 ± 2.27 cm for Group D, indicating a statistically significant difference between the groups ($p = 0.000$). The mean decrease from the baseline to hour 48 was 3.99 units for Group D versus 5.8 units for Group DM (Table 2). This suggested that dexketoprofen + methylprednisolone had greater analgesic efficacy. Figure 1 presents the comparison of the VAS scores of the groups according to the follow-up evaluation time.

The patients' ODI scores were determined at the time of presentation to the hospital (minute 0) and 48 hours after treatment. According to the data obtained, the mean baseline ODI score of Group DM was 43.95 ± 22.09 , which was higher than that of Group D, but it did not result in a statistically significant difference ($p = 0.514$). According to the re-evaluation made 48 hours after the application of the allocated treatments, there was a decrease in the

ODI scores of both groups (mean ODI score: 33.27 ± 23.31 for Group D and 18.67 ± 14.44 for Group DM), and the efficacy of the treatments increased. The decrease in the ODI score was greater in Group DM than in Group D, and this was at a statistically significant level ($p = 0.000$) (Table 3). The comparison of the ODI scores of the groups according to the evaluation time is given in Figure 2.

3. Discussion:

It is known that NSAIDs are the first pharmacological agents to be preferred in the treatment of low back pain, while corticosteroids alone are not useful for this purpose. Our study is one of the first investigations on the analgesic and functional effects of NSAIDs and corticosteroids in combination therapy. Our results showed that NSAIDs had an analgesic effect on low back pain, but when used in combination with corticosteroids, the pain intensity of the patients further decreased.

Pharmacological treatments are administered to patients who have a history of low back pain, those who refrain from non-pharmacological approaches, or those who are at risk of developing serious complications related to low back pain. As per the recommendations of the American Medical Association, it is advised to initiate NSAIDs and muscle relaxants as a first step in pharmacological therapy (16). In a systematic review of patients treated for low back pain, the analgesic efficacy of pharmacological agents in the NSAID group was evaluated in patients aged 18-65 years (17). Other studies including patients suffering from acute and chronic low back pain without a specific cause evaluated analgesic effect and disability status after oral piroxicam treatment (18), analgesic effect and functional capacity after intramuscular tenoxicam injection (19), and the analgesic effect after intravascular diclofenac treatment (20). Systematic evaluations have determined that the use of NSAIDs in both acute and chronic low back pain provides adequate analgesia and significantly improves physical capability (17).

Many studies have been conducted on the use of dexketoprofen for analgesia. The analgesic effects of paracetamol and ibuprofen (21), diclofenac sodium (22), placebo (23), and morphine (24) have been compared in low back pain. These studies have found that dexketoprofen exhibited either a greater analgesic effect (21,23) or had no difference (22,24) when compared to other agents. In our study, the use of dexketoprofen alone in low back pain had analgesic efficacy, similar to previous studies.

Corticosteroids are another type of pharmacological agent used in individuals with acute or

chronic low back pain. The analgesic effect of corticosteroids has also been investigated. However, there are only a limited number of studies comparing their analgesic effects to those of other agents for low back pain. In a study investigating the efficacy of oral prednisolone treatment alone in low back pain, no significant difference was found compared to the control group (25,26). In another study, intramuscular methylprednisolone and placebo groups were compared in patients who presented to the emergency department with low back pain, and methylprednisolone was found to have an analgesic effect (27). We observed significant reductions in VAS scores at minutes 15, 30, and 60 and hour 48 compared to the initial measurement at minute 0. Additionally, the patients with high levels of baseline disability had a significant decrease in their ODI scores after treatment.

Although the research in the literature has proven that the use of corticosteroids alone is not useful for low back pain, there are a few studies showing its benefits. The functionality and analgesic effects of intramuscular methylprednisolone treatment were investigated in patients who presented to the emergency department with low back pain and had a positive straight leg raise test. It was observed that the additional analgesic medication requirements and pain complaints of the corticosteroid-treated group decreased compared to the control group (28). In another study, the benefits of oral steroid treatment for the relief of pain caused by sciatic injury were investigated. In the comparison performed between the control group and patients receiving oral steroid treatment, it was observed that the ODI scores decreased rapidly and functionality improved in the latter during the follow-up period. It was also determined that the patients treated with methylprednisolone have less need for additional analgesic medication (29). In the current study, we found a greater level of decrease in the ODI scores of patients who were administered dexketoprofen + methylprednisolone than in those who received dexketoprofen alone.

The literature also contains studies investigating the combinations of NSAIDs and steroids for different analgesic effects. It has been determined that a steroid combination was more effective for analgesia in patients with plantar fasciitis (30). In a study comparing the efficacy of NSAIDs and prednisolone in the management of postoperative pain in patients undergoing tonsillectomy, the use of steroids was shown to increase postoperative comfort (31). In the current study, it was determined that the analgesic effect of steroid use together with NSAIDs was greater than in previous studies.

4. Limitations

There are some limitations to our study, with the most important being its single-center design

and small sample size. Another limitation is that pain intensity was determined according to patient accounts, making it a subjective evaluation. Furthermore, our study is limited by the absence of a placebo group and the brief duration in which we assessed the efficacy of symptomatic treatment.

5. Conclusion

This study demonstrated that dexketoprofen had analgesic activity and reduced disability in the treatment of patients who present to the emergency department due to non-traumatic low back pain. When used in combination with methylprednisolone, dexketoprofen exhibited greater analgesic efficacy and resulted in the faster regression of disability. Therefore, it is concluded that the combined use of NSAIDs and steroids yields a greater analgesic effect in the management of patients who present to the emergency department with non-traumatic low back pain.

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Conflict of Interest: The authors have no conflict of interest to declare.

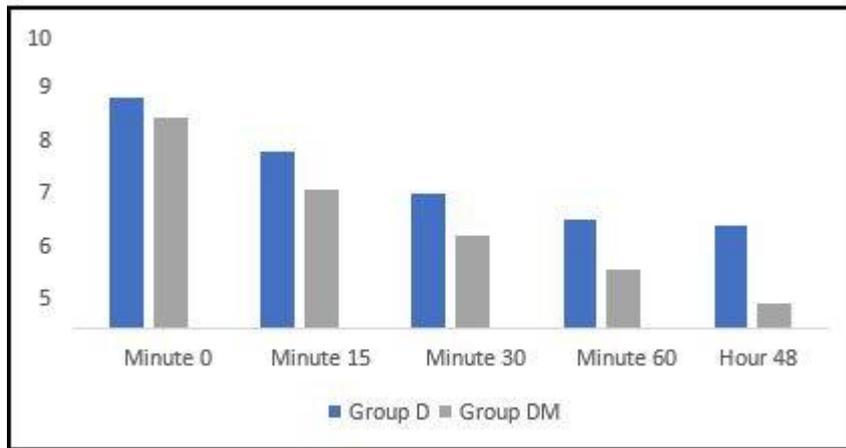


Figure 1: Comparison of the groups according to the VAS scores (Group D: dexketoprofen-administered group; Group DM: dexketoprofen + methylprednisolone-administered group; VAS: Visual Analog Scale)

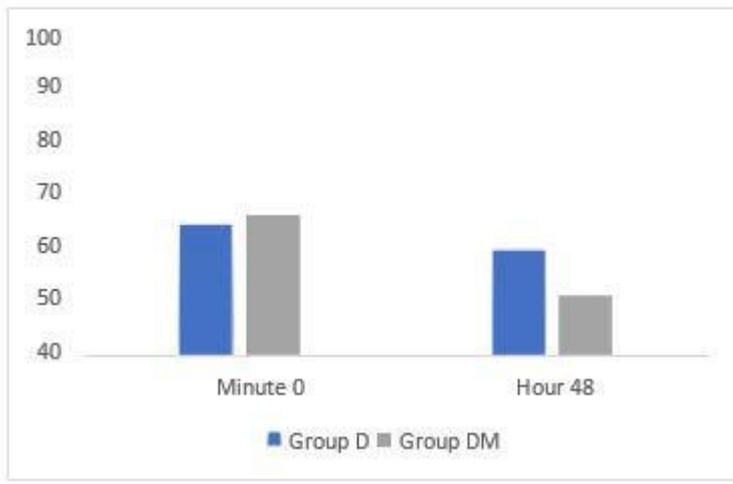


Figure 2: Comparison of the groups according to the ODI scores (Group D: dexketoprofen-administered group; Group DM: dexketoprofen + methylprednisolone-administered group; ODI: Oswestry Disability Index)

Table 1: Demographic and clinical characteristics of the groups

		Group D	Group DM	p
Age (years), (mean, SD)		34.89 ± 10.92	40.84 ± 10.93	0.000
Gender	Male	49 (65.3%)	41 (54.7%)	0.182
	Female	26 (34.7%)	34 (45.3%)	
Chronic disease history	Present	6 (8%)	12 (16%)	0.132
	Absent	69 (92%)	63 (84%)	
Straight leg raise test	Positive	22 (29.3%)	38 (50.7%)	0.008
	Negative	53 (70.3%)	37 (49.3%)	
Urinary	Present	0 (0%)	1 (1.3%)	0.316

incontinence	Absent	100 (100%)	74 (98.7%)	
Systolic blood pressure (mmHg)		129.35 ± 17.36	126.73 ± 16.66	0.588
Diastolic blood pressure (mmHg)		81.89 ± 12.49	76.17 ± 12.11	0.007
Respiratory rate (/min)		15.2 ± 1.79	17.24 ± 9.65	0.012
Oxygen saturation (%)		94.85 ± 2	94.69 ± 2.56	0.691
Pulse (beat/min)		89.64 ± 16.95	82.28 ± 12.92	0.011

Group D: dexketoprofen-administered group; Group DM: dexketoprofen + methylprednisolone-administered group; SD: standard deviation

Table 2: Evaluation of the VAS scores of the groups

VAS (cm)	Group D	Group DM	p
Baseline (minute 0), median (min-max)	8 (4-10)	7 (2-10)	0.032
Minute 15	7 (1-10)	5 (0-10)	0.001
Minute 30	5 (0-10)	4 (0-10)	0.000
Minute 60	4 (0-10)	2 (0-9)	0.000
Hour 48	4 (0-10)	1 (0-8)	0.000

VAS: Visual Analog Scale; Group D: dexketoprofen-administered group; Group DM: dexketoprofen + methylprednisolone-administered group; min: minimum; max: maximum

Table 3: Evaluation of the ODI scores of the groups

ODI score (%)	Group D	Group DM	p
Baseline (minute 0), median (min-max)	40 (4-92)	40 (6-100)	0.514

Hour 48	31 (0-116)	16 (0-72)	0.000
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VAS: Visual Analog Scale; Group D: dexketoprofen-administered group; Group DM: dexketoprofen + methylprednisolone-administered group; min: minimum; max: maximum

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2424

Femoral Artery Aneurysm Developing After Percutaneous Intervention

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Introduction and purpose: Iatrogenic pseudoaneurysm (IPA) is a false aneurysm that occurs after localized arterial wall injury associated with an incomplete hemostatic plug at the site of injury. Local extravasation of blood is limited and controlled by the developing pseudocapsule.

Pseudoaneurysms can develop at any arterial site used for arterial puncture, but for percutaneous-based diagnostic and interventional procedures, IPA secondary to femoral artery access is by far the most common etiology and site. Most uncomplicated IPAs can be managed without open surgery, with observational management, or sometimes using endovascular techniques. In this case report, femoral artery pseudoaneurysm that developed as a result of percutaneous intervention is described.

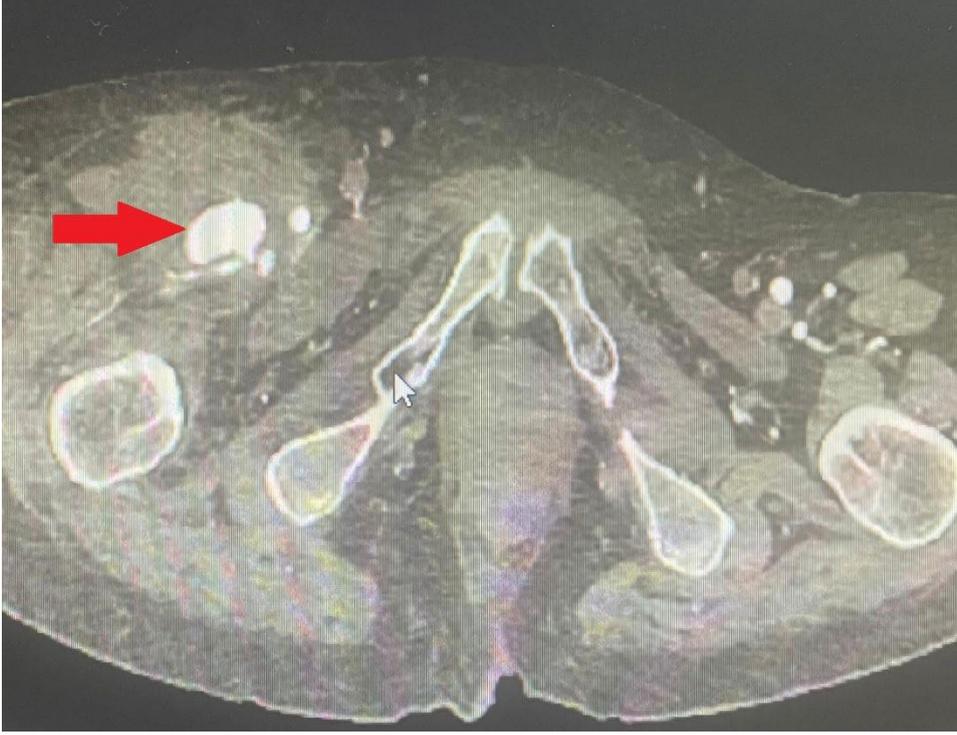
Material and Methods: In this case, an 88-year-old female patient diagnosed with primary hypertension and chronic ischemic heart disease, who developed a femoral artery aneurysm after percutaneous intervention, was referred to us. She had history of coronary angiography one week ago. She applied to the emergency room with complaints of bruising and pain in his right thigh for three days. During the examination, a 4 cm diameter bruise and a pulsatile mass approximately 2 cm in diameter were detected on the skin of the medial right thigh. The patient had normal muscle strength in all 4 extremities, normal sensation, distal circulation and pulses. Doppler ultrasonography revealed a hypochoic image compatible with a 2 cm long pseudoaneurysm reaching 10 mm in diameter, with a 4 mm neck. The patient's CT angiography

had similar results. The patient was consulted to cardiovascular surgery and was hospitalized with an intervention plan.

Result and Discussion: Iatrogenic femoral pseudoaneurysm (IPA) is rare overall, occurring in <1 percent of all interventional procedures[2-7]. Well-established risk factors for IPA include female gender, increasing age, concomitant venous puncture, hypertension, severely calcified vessels, and use of anticoagulation during arterial cannulation or in the immediate postprocedural period[1]. Therefore, iatrogenic pseudoaneurysm should be considered in patients presenting with pain, swelling, pulsatile mass in the region after percutaneous arterial intervention.

Key Words: Coronary angiography, femoral artery, iatrogenic pseudoaneurysm

Picture 1:



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2553

Ovarian Hyperstimulation Syndrome in The Emergency Department, A Complication of IVF Treatment

Short Title: Ovarian Hyperstimulation Syndrome

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Introduction

Ovarian hyperstimulation syndrome occurs as a result of excessive stimulation of the ovaries during IVF treatment, leading to massive ovarian enlargement and excessive follicle development within the ovaries due to medication administered during the treatment. This condition can cause swelling of the ovaries and discomfort in the pelvic region, as well as systemic effects(1).

Women at high risk of OHSS are; under the age of 25, FSH levels below 5 mIU/ml, AMH levels above 5 ng/ml, FSH/LH ratio below 1 and diagnosed with PCOS (2,3).

OHSS Grade 1: Mild, abdominal tightness. Grade 2: Mild, nausea, vomiting, diarrhea, and ovaries measuring between 5-12 cm. Grade 3: Moderate, ascites may be observed. Grade 4: Severe, ascites, pleural effusion, and dyspnea may be observed. Grade 5: Severe, increased viscosity, dyspnea, renal failure may be observed(4,5).

Case

A 34-year-old female patient presented to our ED with complaints of abdominal pain and nausea. The patient's vital signs were normal and her general condition was good. Bilateral tenderness was present in the lower quadrants. It was learned that the patient had undergone IVF treatment.

Laboratory results showed CRP: 3.48 mg/dL, WBC: 14.39 mcL, beta-hCG: 5.5 mIU/mL, creatinine: 0.6 mg/dL. The patient underwent ultrasound multiple cysts were observed in the

ovaries. ACT scan showed multiple cysts, the largest measuring approximately 4 cm, and diffuse fluid in the abdomen.

The patient was assessed as having Grade 2 OHSS. IV hydration therapy was initiated. After treatment, the patient felt relieved. She was discharged from the ED with recommendations for exercise restriction, increased fluid intake, rest and follow-up at the gynecology outpatient clinic.

Discussion

There is no specific treatment method for OHSS. Mild and moderate OHSS can be managed on an outpatient basis (rest, adequate fluid intake, exercise restriction). If necessary, excess fluid leaking into the body can be aspirated (6).

The most important factor is prevent its development. Such as obtaining fewer mature eggs, continuing therapy with low-dose medication, collecting eggs early and using progesterone instead of excessive hCG during the luteal phase (6).

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Key words: IVF, Ovarian hyperstimulation syndrome

2554

A Rare and Urgent Diagnosis in Patients with End Stage Renal Failure: Uremic Pericarditis

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Introduction: Pericardial tissue is a fibroelastic structure consisting of two layers surrounding the heart, visceral and parietal, and 15-50 mL of physiological fluid between these layers helps the heart to maintain its functions by reducing friction during cardiac mobility(1). Acute pericarditis clinic caused by inflammation of the pericardium may occur due to malignancies, infections, autoimmune diseases, trauma, previous myocardial infarction, amyloidosis and uremia(2). The prevalence of uremic pericarditis, which reached 41% in the past with the development of dialysis technologies, is currently below 5%(3). In recent studies, Bataille et al. described 44 cases in 12 years and Sadjadi et al. described 30 cases of uremic pericarditis in 30 years(3). Since uremic pericarditis is a rare condition which may be observed in undiagnosed patients with end-stage renal failure and in routine dialysis patients after inadequate dialysis, we share our case with you.

Case: A 28-year-old male patient was admitted to the emergency department with complaints of shortness of breath and cough while lying on his back and side for 2 days. His known diseases were hypertension, chronic renal failure and heart failure. It was learned that he had been on dialysis 3 days a week for the last 1 year and had previously undergone kidney transplantation but the transplant was rejected. On physical examination, general condition was good, consciousness was clear, cooperative, oriented, cardiac examination revealed froth and rales were heard in lung sounds especially in left lower lung basals, neck venous engorgement and peripheral oedema in bilateral lower extremities. Other systemic examination was within normal limits. Vital signs were as follows: Temperature: 36 °C, blood pressure 144/117 mm/Hg, pulse 105 beats/minute, respiratory rate 20 breaths/minute, oxygen saturation 96% in room air. On electrocardiogram; normal sinus rhythm was observed, t negativity was observed in the inferior leads and typical pericarditis findings were not observed. Blood analyses; Leukocyte (WBC) 14,830/mm³ (Normal range [NR] 4-10.6), Haemoglobin 7,72 g/dL (NR 11-15.5),

Platelet 310 103 mm³ (NR 150- 400), C reactive protein 15, 59 mg/dL (NR 0- 0.5), Glucose 105 mg/dL (NR 70- 106) Urea 109, 2 mg/dL (NR 15- 50) creatinine 5, 34 mg/dL (NR 0, 7- 1, 2) troponin 0, 20 ng/mL (NR 0- 0, 16) coagulation parameters and other biochemistry tests, electrolyte levels and blood gas values were within normal range. Transthoracic echocardiography showed an ejection fraction of 25-30%, eccentric flow in the mitral valve, dilated cardiomyopathy, pleural and pericardial effusion, and fibrin bands secondary to inflammation. Thoracic computed tomography showed a pericardial effusion approximately 4 cm thick at the thickest part and a pleural effusion 4 cm deep at the deepest part in the left hemithorax (Figure 1). The patient who was hospitalised by the cardiology unit with the diagnosis of uremic pericarditis was discharged with healing after treatment and follow-up.



Figure 1: Pericardial effusion with a depth of 4 cm on thoracic computed tomography is shown with a red arrow.

Discussion and Conclusion: While the diagnosis of acute pericarditis is made in the presence of at least two of the following findings: chest pain, pericardial friction rub, ST elevation and PR depression findings on electrocardiogram, development and increase in pericardial effusion, it should not be ignored that classical electrocardiogram findings may not be present in all cases(4). Treatment of uremic pericarditis requires initiation of dialysis if dialysis has not been started, and increasing the frequency of dialysis if the patient is receiving dialysis(5). Sometimes pericardiocentesis, pericardial drainage and pericardiectomy may be required in persistent pericarditis that does not regress despite dialysis treatment(5). Pericarditis and

pericardial effusions may lead to death by causing fatal arrhythmias, heart failure and cardiac tamponade(6). Uremic pericarditis, which may lead to cardiac tamponade and death, should be included in the differential diagnosis and should be diagnosed and treated early, especially in patients with end-stage renal failure and acute renal failure who may need dialysis for the first time.

Keywords: Uremic pericarditis, Pericardial effusion, End-stage renal failure

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2558

LUCKY PATIENTS WITH GUNSHOT WOUNDS

Introduction:

The thoracic region is a very important part of the body as it contains vital organs such as the heart, lungs, oesophagus, trachea and large vessels such as the aorta and vena cava. A serious injury in the thoracic region can lead to a series of serious problems related to the gastrointestinal system, respiratory system and cardiovascular system, as well as a high risk of death, and the return of survivors to life can lead to a lot of labour, time and money loss.

The initial assessment of an injured patient should be performed rapidly and systematically. Thoracic injuries are common after both blunt and penetrating trauma. Therefore, all patients presenting to the emergency department for trauma should be screened for thoracic injury according to the Advanced Trauma Life Support (ATLS) protocol. Since thoracic injury can affect each of the ABCs (Airway, Respiration and Circulation), the chest is rapidly assessed early in the evaluation of the injured patient to see if there is a life-threatening injury. Non-life threatening injuries to the chest are identified during detailed secondary assessment.

In this case series, we will talk about fortunate patients with two different gunshot wounds in the thoracic region and no major organ pathology.

Case 1:

A 42-year-old male patient came to the emergency department with a gunshot wound. Admission TA: 120/80 mmHg, Pulse: 90 beats/min, Spo2: 92%. On examination, the bullet entered medial to the left scapula and remained under the skin on the sternum. Chest radiography (Figure 1) and thorax CT was performed (Figure 2). Left haemopneumothorax was diagnosed and tube thoracostomy was performed in the emergency department (Figure 3). 3D images were obtained to investigate for cardiac and vascular injury (Figure 4). Cardiac injury was excluded. He was hospitalised in the general intensive care unit. As the patient was stable in the intensive care unit, he was transferred to the thoracic surgery service. No complication developed during follow-up. The bullet under the skin on the sternum was removed under local anaesthesia. Chest drain was removed and the patient was discharged (Figure 5).

Figure 1.

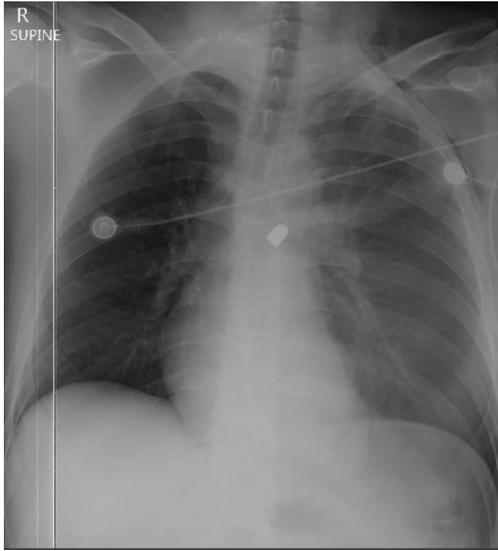


Figure 2.



Figure 3.

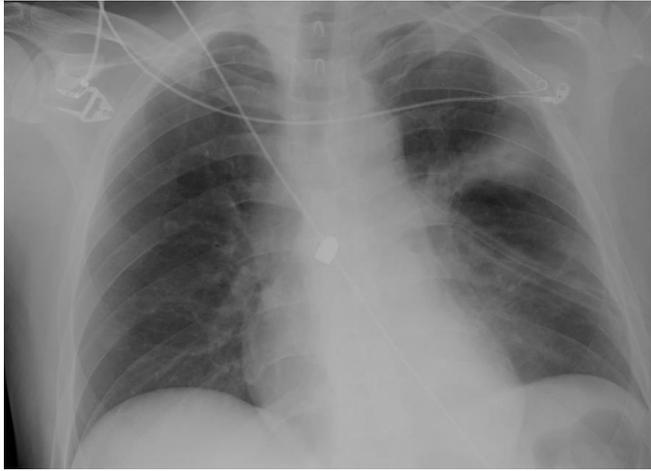


Figure 4.

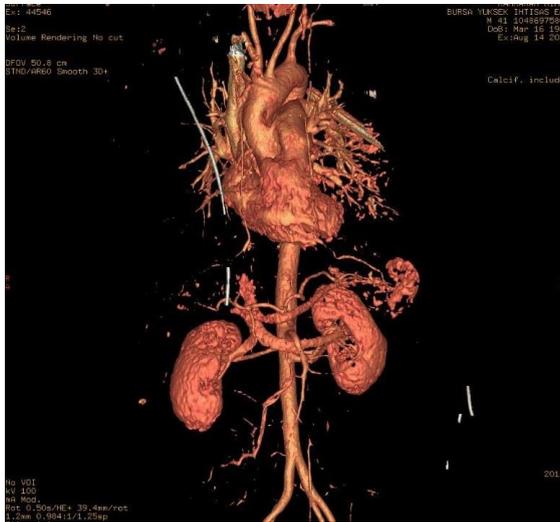
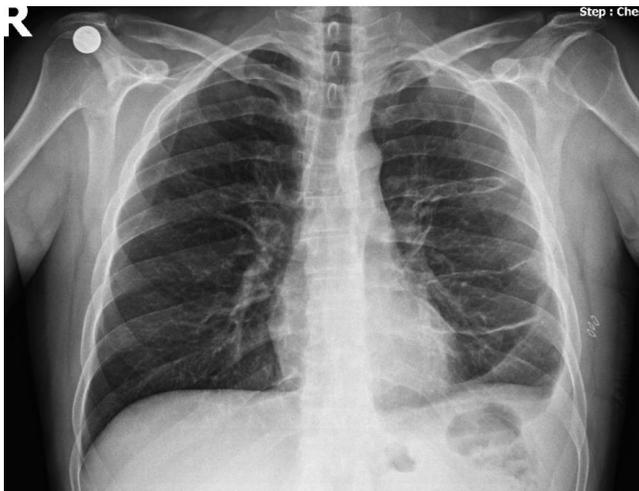


Figure 5.



Case 2:

A 28-year-old woman was admitted to the emergency department with a gunshot wound. Admission TA: 110/70 mmHg, Pulse: 110 beats/min, Spo2: 94%. The gunshot wound has an entry lesion through the right 3rd intercostal space and exit lesion through the right posterior mid-scapular 8th intercostal space. Chronic left diaphragm elevation and effusion in the right hemithorax were present on chest radiography. (Figure 1) Thorax CT showed large contused areas in the right upper lobe, minimal pneumothorax and haemothorax. (Figure 2) Tube thoracostomy was performed in the emergency department. He was discharged on the seventh day of follow-up.

Figure 1.

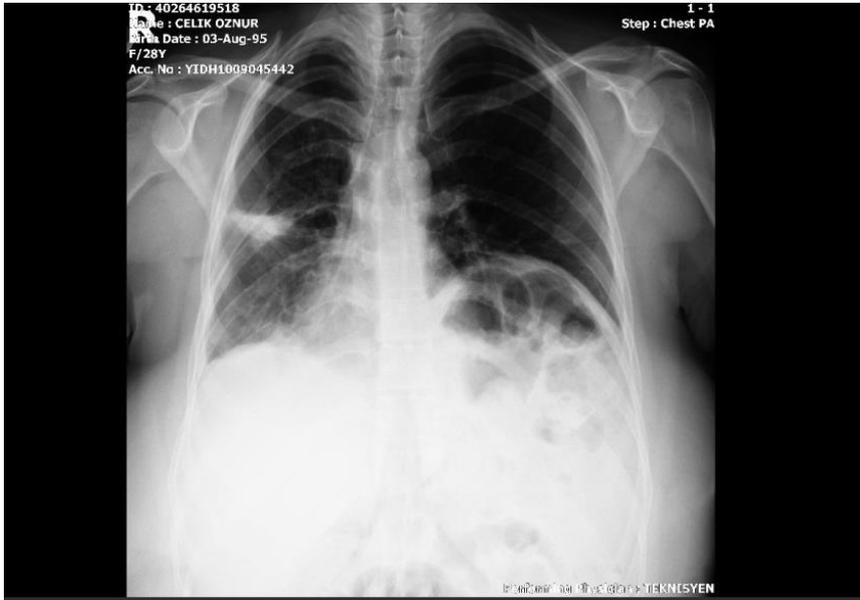
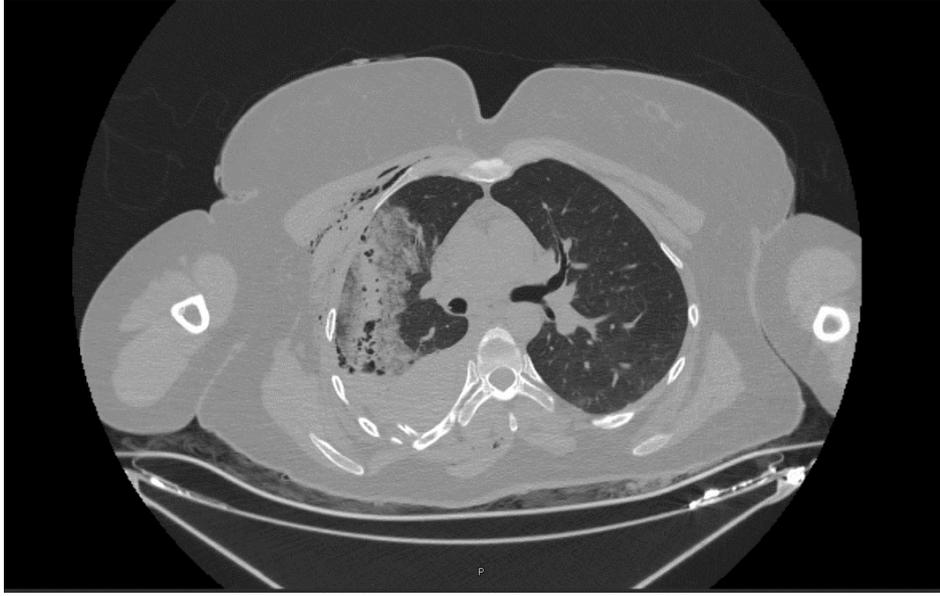


Figure 2.



Discussion:

Thoracic injuries are common due to both blunt and penetrating trauma and can range from benign occult pneumothorax to cardiac injury causing sudden death. Appropriate assessment of injury burden is critical and it is important to be familiar with imaging options (AG, EFAST and Thorax CT) for further investigation of thoracic trauma. The emergency physician should be skilled in decompressing tension pneumothorax, rapidly placing a chest tube and performing RETO when indicated. Rapid management of life-threatening thoracic injuries and appropriate investigations to diagnose others will enable the emergency physician to successfully manage these patients from the time they enter the emergency department to the time they are taken to the operating theatre, interventional radiology department, intensive care unit, inpatient ward or discharged home.

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2837

Status of Emergency Medicine Assistant Quotas and Emergency Medicine Expert Public Employment Data in Türkiye in the Last Decade

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Introduction

Emergency medicine started to develop in the USA in the 1960s and in Europe in the 1990s. Emergency medicine was first approved as a separate specialty in 1979 in the USA. In our country, it was accepted as a separate specialty in 1993, and its education started in 1994. In this recent period, many firsts were witnessed in terms of emergency medicine in our country: the first Emergency Medicine Specialist (ATU) was certified in 1998, the first associations were established, the first associate professors and the first professors were appointed, and the first books were published. At the present time, emergency medicine and ATUs continue to develop, and the number of assistants and ATUs trained in many universities and training and research hospitals is increasing day by day (1-3).

The quality of emergency medicine and emergency care services is undoubtedly closely related to the number of ATUs and the quality of education. In recent years, ATUs have taken and continue to take important roles in many different positions in our country (4). In recent years, the number of quotas for the Medical Speciality Education Entrance Examination (TUS) and the number of residents have been increasing rapidly. We aimed to give general information about TUS assistant quotas, draw attention to the increase in the number of emergency medicine assistant quotas in recent years, and evaluate the public employment data of ATUs.

Materials and Methods

The study is an ecological type of research. The quota data of the TUS Guides of the Measurement, Selection, and Placement Centre (ÖSYM) and the data of the State Service

Obligation (DHY) were taken from the website of the General Directorate of Management Services of the Ministry of Health. Since 2023, TUS quota data have been analyzed retrospectively for 10 years, and DHY emergency medicine specialist appointment data have been analyzed retrospectively for 5 years. Ethics committee approval was not obtained since the data obtained from an open-access source and a database accessible to everyone were used.

The data obtained as a result of the research were transferred to the computer environment and IBM SPSS 23.0 (IBM SPSS Statistics, Version 23.0 (Armonk, NY: IBM Corp.) was analysed with the programme.

In descriptive analyses, frequency data are presented as numbers and percentages, while ordinal variables are given using min, max, and median (1st quartile–3rd quartile). Spearman correlation test was used to analyse the relationship between TUS quotas and years, DHY Course Assignments and years; Phi (ϕ) correlation test was used to analyse the relationship between DHY Course Periods and number of ATU appointments.

The statistical significance level was accepted as $p < 0.05$ for all tests.

Results

It was determined that the number of TUS quotas in one year increased by an average of 282% in the last 10 years. In percentage terms, the highest increase in the number of assistants recruited in a TUS period in 10 years was in the Radiation Oncology branch with 887%. In 2023, it was determined that the highest number of assistant quotas were opened in pediatrics (2453), followed by internal medicine (2152) and emergency medicine (1788) (Table 1).

Table 1 Number of TUS Quotas and Change Percentages of Branches in the Last 10 Years

Branches	2023	2022	2021	2020	2019	2014
	n	n	n	n	n	n
Emergency Medicine	1788	1701	1215	1165	987	640
Forensic Medicine	122	143	101	196	171	77
Family Medicine	1573	1399	1060	1046	1139	482
Anatomy	44	131	56	58	54	20

Anaesthesiology and Reanimation	1352	1252	772	700	541	335
Military Health Services	3	3	1	1	0	2
Brain and Nerve Surgery	446	458	261	249	232	89
Paediatric Surgery	280	315	158	138	133	44
Child Health and Diseases	2453	1894	1496	1497	1371	656
Child and Adolescent Mental Health and Diseases	285	322	168	199	158	79
Skin and Venereal Diseases	604	665	178	169	104	67
Infectious Diseases and Clinical Microbiology	422	472	204	175	128	68
Physical Medicine and Rehabilitation	452	575	200	196	155	133
Physiology	17	113	49	46	45	20
General Surgery	774	916	554	503	445	162
Thoracic Surgery	204	273	151	135	124	36
Chest Diseases	555	618	244	222	167	84
Eye Diseases	518	607	259	256	187	149
Public Health	88	206	174	169	168	102
Aerospace Medicine	5	8	12	3	5	2
Histology and Embryology	63	132	44	44	44	22
Internal Medicine	2152	1870	1617	1548	1404	616
Gynecology and Obstetrics	1121	1302	752	897	950	316
Cardiovascular Surgery	253	374	179	172	157	59
Cardiology	603	615	206	201	169	125
Ear, Nose, and throat diseases	572	732	201	201	153	120
Neurology	780	949	196	180	162	126
Nuclear Medicine	44	74	78	58	45	10
Orthopaedics and Traumatology	583	575	319	318	287	196
Plastic, Reconstructive and Aesthetic Surgery	366	446	134	137	95	57
Radiation Oncology	79	87	91	60	31	8
Radiology	957	1185	271	252	211	165
Mental Health and Diseases	569	549	303	291	290	166

Sports Medicine	24	16	15	14	11	7
Underwater Medicine and Hyperbaric Medicine	10	20	2	8	13	9
Medical Biochemistry	160	159	115	94	69	42
Medical Pharmacology	22	69	66	57	56	22
Medical Genetics	80	61	66	49	34	19
Medical Microbiology	88	199	133	112	95	42
Medical Pathology	229	233	164	144	145	76
Urology	388	485	181	170	156	81
TOTAL	21.12	22.20	12.44	12.13	10.89	5.531
	8	3	6	0	1	

*All data between 2014 and 2023 was used in statistics and evaluations, but data for all years could not be included in the table because they did not fit.

It was found that 9.997 quotas were opened to the emergency medicine branch in TUS in the last decade, and the quota opened in 1 year was min 545, max 1788. In the 5-year period between 2014-2018, the total number of quotas was 3121. 1788 (17.9%) of these quotas were in 2023, 1701 (17%) in 2022, 1215 (12.2%) in 2021, 1165 (11.7%) in 2020, 987 (9.9%) in 2019, 702 (7%) were opened in 2018, 656 (6.6%) in 2017, 545 (5.5%) in 2016, 578 (5.8%) in 2015, 640 (6.4%) in 2014.

It was determined that the emergency medicine branch accounted for 8.9% of all quotas opened in the last 10 years; this rate decreased from 11.6% in 2014 to 8.5% in 2023. A significant, positive, and high correlation was found between the TUS quotas opened in emergency medicine and the years in the last decade ($p < 0.01$, $r_s = 0.952$).

Table 2 Data on State Service Obligation Courtship Periods and Number of Emergency Medicine Specialist Assignments

Years	Number of Appointed Individuals in DHY Terms						Total
	1st Term	2nd term	3rd Term	4th Term	5th Term	6th Term	
2019	37	39	32	40	52	42	242
2020	22	56	14	85	66	38	281

2021	27	34	70	60	58	68	317
2022	62	63	80	76	52	66	399
2023	78	69	46	92	65	51	401

In the last 5 years, a total of 1640 appointments were made for ATU in the DHY Courts, min. 14, max. 92 (1st Quarter 38, 3rd Quarter 68) in 1 period. During this period, there was a positive, significant, and moderate correlation between the number of ATUs appointed in 85–114 periods and the periods ($p < 0.01$, $\phi = 0.571$) and a positive, significant, and excellent correlation between the years and the number of appointments ($p < 0.01$, $r_s = 1$).

Discussion

In recent years, the number of quotas for emergency medicine assistantships has been increasing rapidly. Many factors are effective in the branch selection of physicians after the Faculty of Medicine. In studies conducted in our country, it has been reported that the preference rates and related scores have decreased in clinics such as neurosurgery, obstetrics and gynaecology, general surgery, orthopaedics, and paediatrics, including emergency medicine, which has a high risk and litigation rate, especially after 2013 (5, 6). In the data we obtained in our study, it is seen that while 3121 quotas were opened in the field of emergency medicine between 2014 and 2018, 1640 appointments were made between 2019 and 2023, which is the graduation interval for those who started their education in these years. The increase in the number of appointments lags behind the increase in the number of quotas (Figure 1). This situation suggests that the quotas opened in the field of emergency medicine between these years remained empty or that those who started their education in these years left their education unfilled.

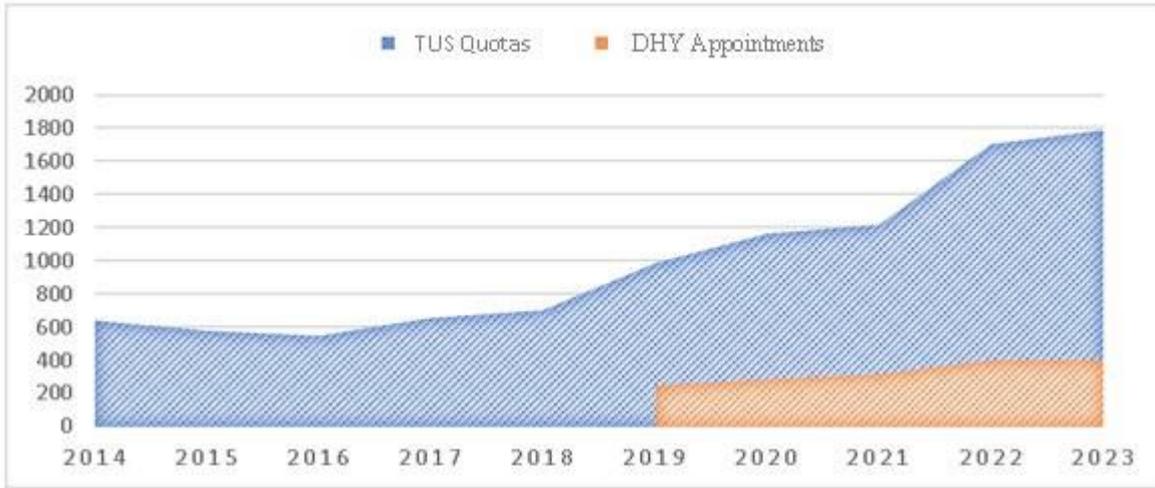


Figure 1 Relationship between the Increase in the Number of Emergency Medicine TUS Quotas and the Number of DHY Appointments

In recent years, the number of quotas in the field of emergency medicine has increased rapidly. This situation seems to be one of the practices aimed at increasing the application of the health system and the capacity of health services. Although the number of quotas in emergency medicine has increased, the decrease in the rate of quotas in other branches in the last decade may be an indicator of increasing inpatient services, intensive care services, and surgeries. Observing the balance between education and service in increasing the number of residents for this capacity increase is extremely important in providing quality emergency services in the future (7-8).

Conclusion

The Emergency Medicine Branch and ATU are extremely important in the execution of emergency services and emergency health services in our country. Due to this importance and the fact that it has been accepted as a separate specialty relatively recently compared to other branches, the rapid development of emergency medicine has led to a rapid increase in the number of assistant quotas. It is seen that the previous quota increase rates did not cause an increase in the number of appointments at the same rate. It is thought that this situation may be related to emergency department working conditions, security, malpractice lawsuits, and ATU personal rights. It will be seen in the future DHY lottery appointments whether a much higher

increase in the number of Emergency Medicine TUS quotas in the last 5 years will overcome this problem.

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Keywords: Education, Employment, Medical residency

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POST-TRAUMA RENAL INFARCT; CASE PRESENTATION**Dilek Atik¹, Habib Ali Yalama¹, Aslıhan Onuralp¹, Cesareddin Dikmetaş¹, Onur Salih Çelikten², Huriye Hançer²****¹Karamanoglu Mehmetbey University, Department Of Emergency Medicine****²Karaman Training and Research Hospital, Department Of Emergency Medicine**

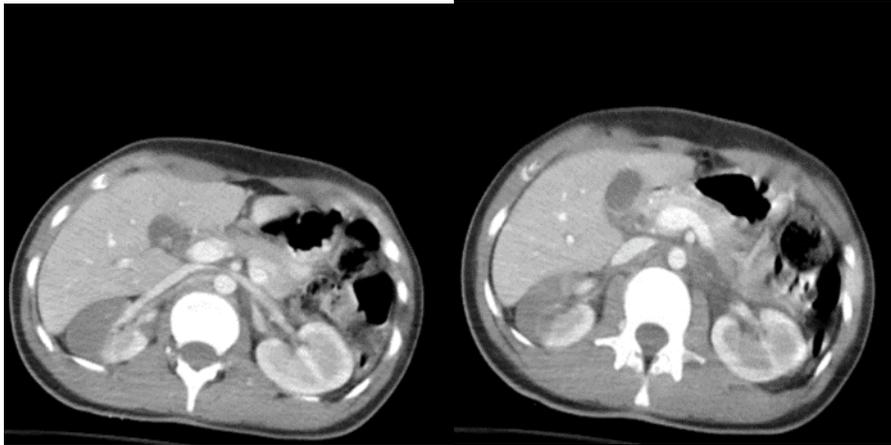
Although the kidney is the most frequently injured organ in the urinary system, kidney injuries constitute 1-5% of all injuries (1,2). 80-90% of kidney traumas occur after blunt abdominal trauma(3). Acute kidney injury following blunt trauma is directly proportional to mortality and morbidity. (4) A single-center retrospective study showed that acute kidney injury developed in 23.8% of 1033 trauma patients in intensive care. Of these, 10% had to undergo renal transplantation (5,6). In one study, 9119 adult kidney injuries were examined, 63% of which occurred from motor vehicle accidents, 14% from falls, 11% from sports injuries, and 4% from non-vehicular traffic accidents (7). We wanted to present this case because we think it is a good example of kidney damage after blunt trauma and the need for detailed examination even though there are no findings on high-energy post-trauma examination.

CASE PRESENTATION

An 18-year-old female patient was brought to our hospital by 112 after a traffic accident while crossing the road. Temperature on arrival vitals: 36.5 °C pulse: 80/50 mmHg at 100/min GCS: 15

In her first examination, there was a 1*6 cm open wound on the lower lip, an open wound on the chin, abrasions of various sizes in all 4 extremities, and a fracture in the left elbow. There was no tenderness on abdominal examination and no defensive rebound was observed. The patient's laboratory tests were sent. In Biochemistry, Glucose: 139 mg/dL Urea: 28.5 mg/dL Creatinine: 0.92 mg/dL, AST: 246 u/L, ALT: 185 u/L, Calcium: 7.95 mg/dL, Total Bilirubin: 0.39 mg/dL, Direct Bilirubin: 0.08 mg/dL, Indirect Bilirubin: 0.31 mg/dL, CK: 276 u/L, CK-MB: 217.8 u/L, CRP: 0.2 mg/L, GGT: 15.5 u/L, Sodium: 132 mmol/L, Potassium: 3.49 mmol/L, Chlorine: 107 mmol/L, INR: 1.24, aPTT: 21.7 sec, PT : 13 sec. In the hemogram,

WBC: 17.21 K/uL Hgb: 6.9 G/DL, HCT: 25%, MCV: 58.7 fL, MCH: 16.1 PG, RDW-CV: 20.2, RDW -SD:43.8 fL, Plt:430 K/uL, MPV:8.8 fL. It came as.Brain, cervical, thoracic, abdominal and pelvic CT scans were performed. In the tomography report: A few wedge-shaped, large hypodense areas were observed in the right kidney parenchyma and were primarily evaluated in favor of traumatic infarction. Although the right renal artery has a patent appearance, segmental and arcuate arteries cannot be evaluated. No significant hemorrhagic density was seen in the perirenal fatty planes.A bladder catheter was inserted into the patient. Hematuria was not observed. USG was performed. USG report: Contusion areas seen in the right kidney on tomography could not be distinguished sonographically. No pathology was detected in other organs. Antibiotics and fluid resuscitation were administered for traumatic injuries. The patient was started on 1 unit of erythrocyte suspension. The patient was consulted to urology, general surgery, orthopedics, cardiovascular surgery and plastic surgery. He was admitted to the 3rd stage surgical intensive care unit by the urologist.



Picture 1. Computerized tomography image of the patient

DISCUSSION-CONCLUSION

In recent years, conservative approaches have been preferred rather than interventional treatment approaches in renal trauma (8). In this selection, the patient's hemodynamic status, renal functions and vascularization status are taken into consideration (9). Our patient was discharged after 2 days of intensive care follow-up and 2 days of follow-up in the ward.

Renal damage should be especially considered in the presence of macroscopic and microscopic hematuria, abdominal examination findings and hypotension, especially in patients who have

experienced high-energy trauma (8). In our case, the examination was very comfortable, there was no macroscopic or microscopic hematuria, but there was hypotension. Imaging was our main tool in making the diagnosis. Therefore, we think that CT scanning should be performed in high-energy traumas, even if there are no examination findings.

In a case report of 2 cases published by Zahoor Ahmed et al., it is mentioned that renovascular injuries are associated with non-renal organs (10). However, in our case, there was no accompanying organ injury and it was evaluated as isolated renal trauma.

It should be kept in mind that kidney damage may occur in the presence of hypotension, especially in high-energy traumas, even if there are no examination findings. The absence of hematuria, absence of additional organ injury and normal urea-creatinine values do not exclude kidney damage.

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3081

İnfektif Endokardit Dışı Septik Emboli

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Özet

Giriş

Septik emboli, tipik olarak uzak bir bulaşıcı kaynaktan kan dolaşımına taşınan ve bir kan damarını tıkayan enfekte bir trombüsün neden olduğu embolidir. Septik emboli ve enfarkta en sık neden olan klinik tablo infektif endokardittir. Olgular sıklıkla iskemik inme, ateş, toksik ensefalopati, menenjizm, nöbet, baş ağrısı ile prezente olur. Çoğunlukla *S. aureus* (en sık), *S. viridans*, fungal gibi etkenler suçlanır.

Olgu

57 yaşında erkek hasta, ani konuşma bozukluğu ile acil servise başvurdu. Hasta, akciğer adenokarsinomu, malign plevral efüzyon, pnömoni ve atriyal fibrilasyon nedeniyle tedavi görüyor. Hasta bilinçli, emirlere uyum sağlıyor, vital bulgular stabil ve laboratuvar testlerinde enfeksiyon belirteçleri yüksek bulunuyor. Difüzyon manyetik rezonans görüntüleme (MR), her iki serebellar hemisferde ve her iki posterior parietal-frontoparietal düzeyde çoklu fokal difüzyon kısıtlanması gözleniyor. Hasta, septik embolik infarkt ön tanısı ile nöroloji servisine yatırıldı.

Tartışma

Enfarktlar daha çok MCA sulama alanına uyar. PCA sulama alanı nadirdir. Enfarkt, serebrit ve apseler izlenebilir. Septik embolik ensefalit, dolaşım bozukluğu ve endotoksinlere sekonder gelişen sepsis-ilişkili ensefalopatiden (sepsis-associated encephalopathy) ayırt edilmelidir. Sepsis-ilişkili ensefalopati difüz beyin disfonksiyonu ile karakterizedir.

Sonuç

Septik embolik enfarkt olgularında tanıyı doğrulamada BT Anjiyografi, Difüzyon MRI, Kardiyak Ekografi ve kan kültürü kullanılır.

Anahtar kelimeler: septik emboli, vejetasyon, embolik ensefalit

Septic Embolism Not Caused By Infective Endocarditis

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Abstract

Introduction

Septic embolism is an obstruction of a blood vessel, typically by an infected thrombus that travels through the bloodstream from a distant infectious source and blocks a blood vessel. Septic emboli result in two complications the early embolic/ischemic insult due to vascular occlusion that may lead to infarction and the infectious insult that leads to inflammation and possible abscess formation. Septic embolism frequently results from infective endocarditis.

Septic embolism comes from infected heart valves, thrombophlebitis, and pulmonary artery catheter or infected pacemaker wires as many sources. Other causes are pulmonary infection, pulmonary arteriovenous malformation, intravenous drug use and cyanotic heart disease. Cases often present with ischemic stroke, fever, toxic encephalopathy, meningism, seizure, and headache. Factors such as *s. aureus* (most common), *s. viridans* and fungal are often blamed.

Case

A 57-year-old male patient was admitted to the emergency with sudden speech disorder. The patient is being treated for lung adenocarcinoma, malignant pleural effusion, pneumonia, and atrial fibrillation. The patient is conscious, obeys orders, vital signs are stable, and infective parameters are elevated in laboratory tests. In Diffusion Magnetic Resonance Imaging (MRI), diffusion restriction is observed in the form of multiple foci in both cerebellar hemispheres and both posterior parietal-frontoparietal levels. The patient was admitted to the neurology service with a preliminary diagnosis of septic embolic enfarct.

Discussion

Septic embolic infarcts mostly fit into the Middle Cerebral Artery(MCA) area. Posterior Cerebral Artery (PCA) area is rare. Infarction, cerebritis and abscesses are observed. Septic emboli are more prone to bleeding than embolic infracts. Septic embolic encephalitis should be distinguished from sepsis-associated encephalopathy, which develops secondary to circulatory disorders and endotoxins. Sepsis-associated encephalopathy is characterized by diffuse brain dysfunction. More much gray matter is affected. Mitochondrial dysfunction and apoptosis due to oxidative stress are observed.

Conclusion

Computed Tomography (CT) Angiography, Diffusion MRI, cardiac echography, blood culture are used to confirm the diagnosis.

KeyWords: septic emboli, vegetation, embolic encephalitis

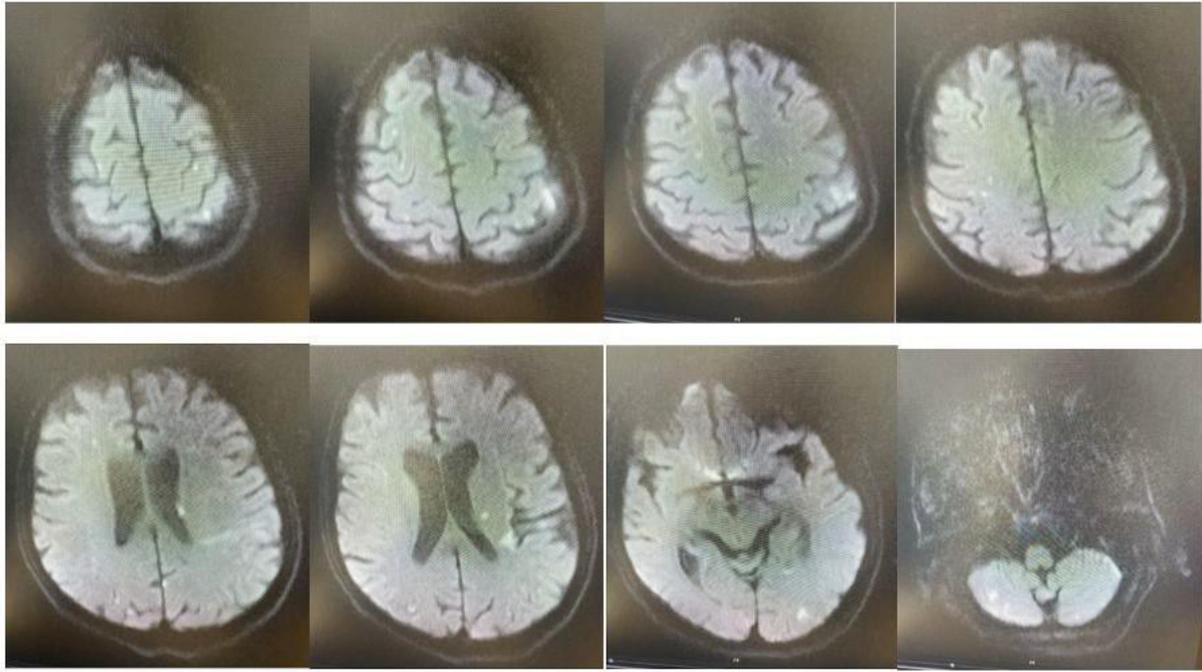
GİRİŞ

Septik emboli, tipik olarak uzak bir bulaşıcı kaynaktan kan dolaşımına taşınan ve bir kan damarını tıkayan enfekte bir trombusun neden olduğu embolidir. Septik emboli iki duruma neden olur: enfarktüse yol açabilen vasküler tıkanmaya bağlı erken embolik/iskemik hasar ve enflamasyona ve olası apse oluşumuna yol açan enfeksiyöz hasar. Septik emboli ve enfarkta en sık neden olan klinik tablo infektif endokardittir (1). Septik emboli nadir görülen bir hastalıktır ancak mortalitesi ve morbiditesi yüksektir. Enfekte kalp kapakçıkları, tromboflebit ve pulmoner arter kateteri veya enfekte kalp pilleri ve birçok nedenden kaynaklanabilir (2). Diğer nedenler pulmoner enfeksiyon, pulmoner arteriyovenöz malformasyon, intravenöz ilaç kullanımı ve siyanotik kalp hastalıklarıdır. Olgular sıklıkla iskemik inme, ateş, toksik ensefalopati, menenjizm, nöbet, baş ağrısı ile prezente olur. Çoğunlukla s. aureus (en sık), s. viridans, fungal gibi etkenler suçlanır (3).

OLGU

57 yaş erkek hasta, ani gelişen konuşma bozukluğu ile acil servise getirildi. Kronik Atriyal fibrilasyon ve Akciğer Adenokanser tanıları olan hasta aktif Kemoterapi alıyor. Pnömoni nedeniyle iki haftadır antibiyotik kullanıyor. Fizik muayenede akciğer sesleri sağ bazalde azalmış. Bilinci açık, emirlere uyuyor. Tansiyon Arteriyel (TA):107/70mmHg, ateş:36.5°C, nabız:65 atım/dk, oksijen saturasyonu:%96. Laboratuvarda CRP:108 mg/L WBC:20.000 µL Troponin:1186 ng/L. Akciğer grafisinde sağda malign efüzyon görüldü. Pulmoner BT anjiyografide sağda malign efüzyon ve pnömonik infiltrasyonlar görüldü. Pulmoner arter ve dallarında enfarkt görülmedi. Difüzyon MR görüntülemesinde her iki serebellar hemisferde, her iki posterior pariyetal-frontoparietal düzeylerde multiple odaklar şeklinde difüzyon kısıtlılığı alanları izlendi. Bilinen koroner arter hastalığı olmayan hastada yapılan kardiyak ekografide Ejeksiyon Fraksiyonu (EF): %60 normal sol ventrikül (LV) sistolik fonksiyon, Ortalama

Pulmoner Arter Basıncı (PAB):25 mmHg ölçüldü. Kapak yapıları doğal olup vejetasyon izlenmedi. Kardiyoloji konsültasyonu istendi. Hastada kardiyembolizm düşünülmedi. Göğüs hastalıkları konsültasyonunda ise hastanın mevcut pnömonisi için antibiyotik tedavisinin devamı önerildi. Nöroloji konsültasyonu istendi, hastanın septik embolik enfarkt ön tanısıyla nöroloji servisine yatışı uygun görüldü. Hastanın takibinde alınan kan kültüründe üreme olmadı. Nöroloji servisinden taburcu edildi.



Şekil 1. Beyin Difüzyon MR görüntülemesinde saptanan bilateral multiple enfarktlar

TARTIŞMA

Enfarktlar daha çok MCA sulama alanına uyar. PCA sulama alanı nadirdir. Enfarkt, serebrit ve apseler izlenebilir. Septik emboliler kanamaya embolik enfarktlardan daha eğilimlidir (4). Septik embolik ensefalit, dolaşım bozukluğu ve endotoksinlere sekonder gelişen sepsis-ilişkili ensefalopatiden (sepsis-associated encephalopathy) ayırt edilmelidir. Sepsis-ilişkili ensefalopati difüz beyin disfonksiyonu ile karakterizedir. Daha çok gri cevher etkilenir. Oksidatif strese bağlı mitokondriyal disfonksiyon ve apoptozis izlenir.

SONUÇ

Septik embolik enfarkt olgularında tanıyı doğrulamada BT Anjiyografi, Difüzyon MRI, Kardiyak Ekografi ve kan kültürü kullanılır.

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3151

A History Of Facial Paralysis With A Peripheral Appearance, A Bulbus Infarction

Introduction: Any damage that may occur in the course of the facial nerve from the motor nucleus in the pons to the most distal neuromuscular junction may cause peripheral facial paralysis clinic. Patients who experience ischemia in the cortex, internal capsule or brainstem region where the nerve nucleus is located have upper motor neuron damage. They have damage and therefore cannot purse their lips and asymmetry develops in the lips when showing their teeth. However, they can wrinkle their forehead, raise their eyebrows and close their eyes. Patients with lower motor neuron damage cannot raise their eyebrows or close their eyes in addition to the disorders mentioned above.

Purpose: Our aim in this study is to show that we need to pay attention to additional neurological findings in patients with peripheral facial paralysis in order to rule out central pathologies, and that facial paralysis with a peripheral appearance may develop in some central events.

Case: A 46-year-old male patient applied to the emergency department with a complaint of asymmetry at the corner of the mouth. He has a history of ischemic stroke, hypertension, and diabetes. Blood pressure measured at the admission to the emergency department. 180/100 mm/Hg, ECG was seen as normal sinus rhythm, neurological examination revealed consciousness, cooperative orientation, no anisocoria, IR: +/+, speech dysarthria. Ptosis in the left eye and left nasolabial groove palsy were noted. Swallowing reflex could not be detected bilaterally. Diffusion MRI detected an acute infarct in the left half of the bulb.

Discussion: The clinical picture of peripheral facial paralysis is that any damage that may occur in the infranuclear part of the facial nerve after it leaves the motor nucleus in the pons in its course up to the most distal neuromuscular junction may cause peripheral facial paralysis. In addition, the 8th and 9th cranial nerves can also occur anywhere after they emerge from their nucleus in the pons. Swallowing function may be impaired in patients as a result of the lesion. With this case, we declare that cerebrovascular diseases should be considered in patients who develop peripheral type facial paralysis with risk factors.

Key words: Bulb, infarct, facial paralysis **Source:**

1. Journal of Turkish Cerebrovascular Diseases 2009 15:3;83-85
2. Ankara University Faculty of Medicine Journal 2022;75(2):226-230

3230

Don't forget Fournier's gangrene when you think of sepsis.**Dilek Atik¹, Cesareddin Dikmetaş¹, Kaya Alp Sonkaya¹, Rabia Gönültaş¹****1Karamanoglu Mehmetbey University, Department Of Emergency Medicine**

Fournier's gangrene is a specific form of necrotizing fasciitis that usually begins in the perianal region, is accompanied by thrombosis of the feeding arteries, including the external genital organs, and causes gangrene of the skin and subcutaneous tissue, which may develop symptoms of sepsis and multiple organ failure (1). It is seen more frequently in men than in women. Our aim in this case report is to present Fournier's gangrene among other causes of sepsis in emergency department admissions and because it is relatively rarely diagnosed.

CASE REPORT

A 73-year-old female patient is brought to the emergency room by 112 teams with complaints of shortness of breath, cough, fever, phlegm, and decreased eating and drinking for 3-4 days. His medical history includes HT, a history of CVO 10 months ago and the resulting inability to walk, and a known diagnosis of AF. He was admitted to the emergency room 3 days ago and was considered to have URTI and was discharged. Vitals; Fever: 36.5 Pulse: 122 TA: 90/60 SpO₂ Without Oxygen 60 SpO₂ With Oxygen 94 Respiratory Rate was 28. In the FM performed, Neurological examination is Natural, Conscious, Oriented and Cooperative, GCS is 15, SS is Natural, OF is Natural, Abdominal examination is Natural, Urogenital examination; There is swelling, redness, abscess, and foul-smelling infective tissue, including a hard muscle mass with a diameter of approximately 30 cm, starting from the perianal region and extending to the thigh-knee region. In the laboratory panel; WBC 15.88K/uL, NEU 14.25K/uL, Crescent in the UK. 2.06mg/dL, Urea 124mg/dL, CRP 365mg/L, Albumin 26g/L. In Blood Gas, pH was 7.26, pCO₂ was 31.3mmHg, Lactate was 5.90 mmol/L. The patient had swelling, redness, bad anaerobic odor starting from the perianal region to the thigh-knee area, and was considered to have Sepsis due to Fournier Gangrene due to hypothermia, hypotension, tachypnea, and Lactate positivity (Figure 1). General surgery was consulted and the patient underwent emergency surgery, wound debridement, and admission to the 3rd step ICU. The patient, who was followed up in intensive care for 2 days after emergency surgery, died.

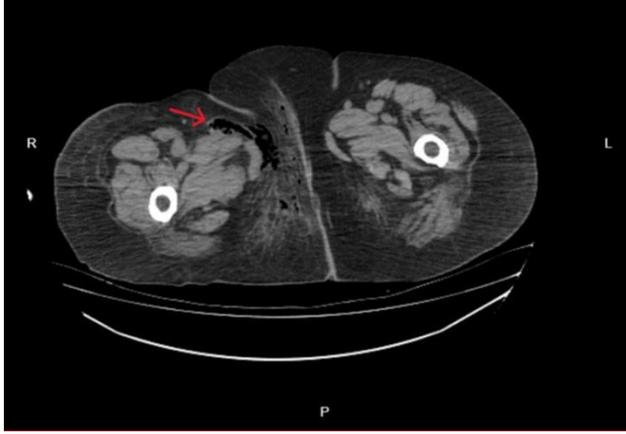


Figure 1. Computerized tomography image of the patient

DISCUSSION

Although this disease is rare compared to other organ infections, the adverse prognosis associated with this disease largely depends on the timing of medical care. Delay in treatment is accompanied by a high lethality of up to 90% due to the development of septic shock and related complications (2,3).

Patients with Fournier's gangrene are urgently hospitalized in a surgical hospital. The prognosis of the disease is serious and its lethality reaches 90%. A retrospective cohort study revealed the following prognostic factors for the unfavorable prognosis of Fournier gangrene: tissue damage beyond the perineum, severe sepsis and/or septic shock, pulse over 90 beats per minute, elevated leukocyte count.

The basis of treatment for Fournier's gangrene is urgent surgical intervention combined with antibacterial and detoxification therapy. Since it progresses very quickly, late diagnosis increases mortality.

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Resim 1. Hastaya ait bilgisayarlı tomografi görüntüsü

TARTIŞMA

Bu hastalığın diğer organ enfeksiyonlarına kıyasla nadirli olmasına rağmen, bu hastalıkla ilgili olumsuz prognoz büyük ölçüde tıbbi bakımın zamanlamasına bağlıdır. Tedavi gecikmesiyle, septik şok ve buna bağlı komplikasyonların gelişmesi nedeniyle %90'a varan yüksek ölümcüllük eşlik etmektedir (2,3).

Fournier gangreni olan hastalar acil olarak hastaneye interne edilir. Hastalığın prognozu ciddidir ve öldürücülüğü %90'a ulaşır. Retrospektif bir kohort çalışmasında Fournier kangreninin olumsuz prognozunun aşağıdaki prognostik faktörlerini ortaya çıkardı: perine ötesinde doku hasarı, şiddetli sepsis ve/veya septik şok, dakikada 90'ın üzerinde nabız, Lökosit yüksekliği söz edilmektedir.

Fournier kangreni tedavisinin temeli, antibakteriyel ve detoksifikasyon tedavisi ile birlikte acil cerrahi müdahaledir. Çok hızlı ilerlediğinden ötürü Hastalara geç tanı konması mortaliteyi artırmaktadır.

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Hypertensive crisis due to pheochromocytoma: A Case Report

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Abstract

Introduction

Pheochromocytomas are rare tumors in the adrenal medulla that derive from the chromaffin cells and produce catecholamines. They are an uncommon cause of hypertension, palpitations, and tachycardia, and only 50% of the patients present symptoms compatible with this pathology. Emergency doctors and clinicians should focus on early diagnosis as delay in initiating the appropriate treatment can lead to mortality.

Case Report

Our case presents a 58-year-old female patient with a past medical history of hypertension, type 2 diabetes, and coronary artery disease. She was brought to the emergency department for a severe headache associated with nausea and two episodes of vomiting that started 4 hours before his arrival to the emergency room. On arrival to the emergency room, her vitals were as follows Blood pressure (BP):210/98 mmHg, heart rate (HR) 135 beats/min, respiratory rate (RR)18/min, temperature: 36.4 °C oxygen saturation:98% on room air. On physical examination, the general condition was alert and oriented, and the Neurological examination and the mental status examination were normal. Computerized tomography (CT) imaging showed a 1.5*0.9 cm left adrenal mass.

Discussion

Catecholamine-secreting tumors are a rare neoplasm, occurring in approximately 0.1 to 1% of hypertensive patients. Pheochromocytomas are most common in the fourth to fifth decade, although they can occur at any age. They are equally common in females and males.

Conclusion

Pheochromocytomas are rare neuroendocrine tumors responsible for less than 1% of hypertensive cases. Only 50% of individuals will present symptoms compatible with this tumor, and, in most cases, the symptoms will be paroxysmal. Surgery is curative for pheochromocytomas, but long-term surveillance is necessary.

Keywords: pheochromocytomas, emergency room, hypertensive crises.

Introduction

The global prevalence of hypertension (defined as blood pressure higher than 140/90 mmHg) is high all over the world, and it is responsible for significant cardiovascular morbidity and mortality. However, 3-10% is due to secondary hypertension, with a potential cure, so it is important to consider secondary causes if the clinic and course of the disease suggest it (1).

Pheochromocytoma is a rare neoplasm with an incidence of 1-4/million population/year (2). This tumor is known for causing hypertension. However, it is an uncommon cause of hypertension and occurs in less than 1% of hypertensive patients. This tumor derives from the chromaffin cells of the embryonic neural crest, which produce catecholamines(3).

Case Report

Our case presents a 58-year-old female patient with a past medical history of hypertension, type 2 diabetes, and coronary artery disease. She was brought to the emergency department for a severe headache associated with nausea and two episodes of vomiting that started 4 hours before his arrival at the Emergency room. On arrival at the Emergency room, her vitals were as follows: Blood pressure 210/98 mmHg, heart rate (HR) 135 beats/min, respiratory rate (RR)18/min, temperature 36,4°C oxygen saturation:98% on room air. On physical examination, the general

condition is alert and oriented; the neurologic examination was normal, with tachycardia, tachypnea, and no murmur-rubbing-galloping. After the physical examination, laboratory tests were requested, and symptomatic treatment was started. In laboratory tests of the patient, leukocyte $11.15 \times 10^9/\text{mcl}$ (82% neutrophils, 10% lymphocytes, 8% monocytes), hemoglobin 10,3 g/dl, hematocrit 32,1g/dl, Computerized tomography (CT) imaging showed a 1.5*0.9 cm left adrenal mass (Figure 1) . Both alpha and beta blockers were initiated to manage hypertension, prompted by the preliminary diagnosis of pheochromocytoma. The patient was consulted by the Department of Endocrinology. She was admitted to intensive care with the initial diagnosis of pheochromocytoma. In the intensive care laboratory, studies revealed an elevated urinary metanephrines secretion of 724 mcg/24h (normal value under 229 mcg/24h) and also an elevated urinary normetanephrine of 864 mcg/24h (normal value under 444 mcg/24h). A diagnosis of pheochromocytoma was made. Treatment was guided by endocrinology and general surgery.

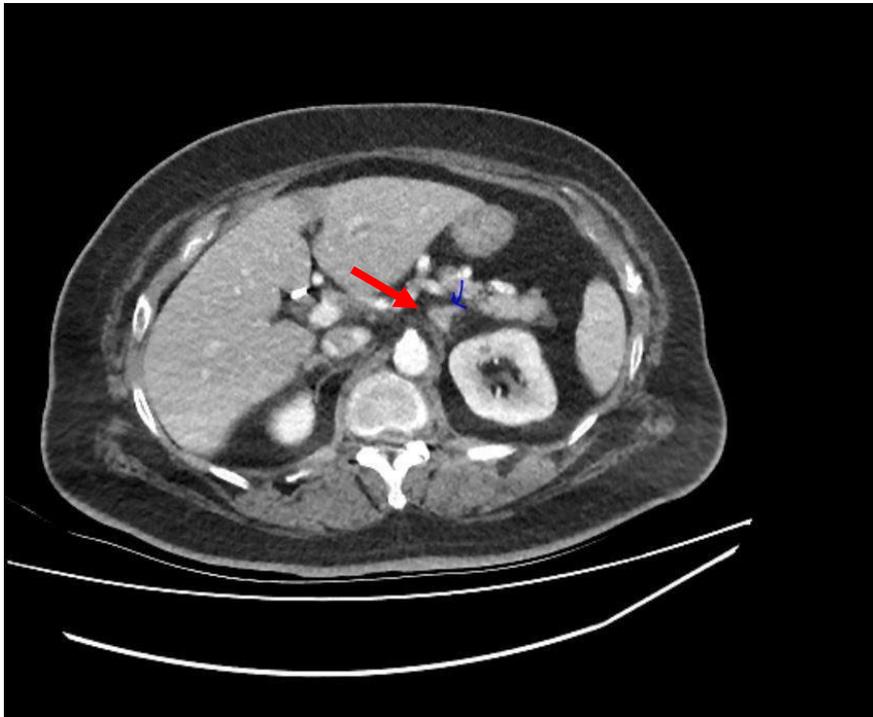


Figure 1. CT imaging showed a 1.5*0.9 cm left adrenal mass

Discussion

Catecholamine-secreting tumors are a rare neoplasm, occurring in approximately 0.1 to 1% of hypertensive patients (4). The clinical presentation varies, alternating from an adrenal incidentaloma to hypertensive crises with associated cerebrovascular or cardiac complications (5). Only 4% of adrenal masses incidentally found are known to be pheochromocytomas; the most common are benign adenomas. The diagnosis of this pathology requires both proofs of excessive release of catecholamines and anatomical documentation of the tumor (6).

Conclusion

Pheochromocytomas are rare neuroendocrine tumors responsible for less than 1% of hypertensive cases. Only 50% of individuals will present symptoms compatible with this tumor, and, in most cases, the symptoms will be paroxysmal. Clinical presentation varies according to location and degree of catecholamine secretion and includes the classic triad of headaches, palpitations, and profuse sweating. The diagnosis of pheochromocytoma requires excessive release of catecholamines and anatomical documentation of the tumor. Surgery is curative for pheochromocytomas, but long-term surveillance is necessary.

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Cerebral venous sinus thrombosis after spinal anaesthesia

Introduction and Purpose: Cerebral sinus vein thrombosis is a rare clinical entity after spinal anaesthesia. It often presents with prolonged headache after spinal anaesthesia and unresponsive to standard treatments. Aseptic meningitis, subdural haemorrhage, subarachnoid haemorrhage, cerebral herniation and exacerbation of pre-existing neurological disease should be considered in severe headache lasting longer than 7 days after spinal anaesthesia. Report a 23-year-old female patient who underwent spinal anaesthesia one week before admission to our emergency department, presented to the emergency department with headache and numbness and was finally diagnosed with cerebral sinus thrombosis in our clinic.

Materials and Methods: A 23-year-old female patient who gave birth with C/S under spinal anaesthesia one week ago came to the emergency department with headache 2 days ago, right hemihypoesthesia one day ago and new onset of hemiparesis. The patient has cortical diffusion limitation in the left parietal (picture 1). MR venography was performed due to the possibility of venous infarction and 0.6 enoxaparin, dexamethasone 4mg was started as treatment. The patient was admitted to the intensive care unit after having two generalised tonic clonic seizures in the emergency department. Levetiracetam loading and maintenance was performed as 2x500mg. MR venography showed partial thrombosis in the CNS and thrombosed appearance in the left cortical veins.

picture 1



Results and Conclusion: Emergency physicians should consider sinus vein thrombosis in patients with postdural headache that occurs after spinal anaesthesia and does not respond to standard postdural headache treatment methods. Sinus vein thrombosis is a disease with high mortality and morbidity if not diagnosed early and treated appropriately. Recent studies have reported that the mortality rate is between 6-10% despite treatment. Although sinus vein thrombosis is a rare disease, it should be considered in patients with severe headache and papillary oedema who present with epileptic seizures and may potentially be predisposed to thrombosis. Early diagnosis is important and anticoagulant, thrombolytic, antiepileptic and etiological treatments should be performed. Among these treatments, anticoagulant therapy is effective and safe. Close vital follow-up and seizure follow-up should be performed under intensive care unit if necessary.

Keywords

: Cerebral ven , sinus thrombosis , spinal anaesthesia

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THE IMPORTANCE OF MRI FOR EARLY DIAGNOSIS OF HEMORRHAGE IN HEAD TRAUMA

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Abstract

Introduction and Purpose: Epidural hematoma is defined as the accumulation of blood between the dura mater and the skull bones. It is a condition that may require urgent intervention and can lead to serious morbidity and mortality if left untreated.

Materials and Methods: A 67-year-old female patient was admitted to the emergency room due to head trauma following dizziness. The patient had been hit in the left occipital region and had pain and edema. On physical examination, she was conscious, Glasgow Coma Scale (GCS): 15, neurological examination was normal. CT was requested for the patient. In the CT scan, on the left of the midline at the level of the posterior fossa there was a mass? epidural hematoma? measuring 30x20 mm was available. Diffusion MRI (Magnetic Resonance Imaging) was performed for other cranial pathologies in the patient who had head trauma after dizziness. In the diffusion MRI, an epidural hematoma was observed. The patient was consulted to a neurosurgeon. The patient, whose general condition deteriorated and whose epidural hematoma increased in the control CT scan was taken into emergency surgery.

Results and Conclusion: We saw that MRI is useful to clarify the diagnosis in isodense hematomas on CT.

Keywords: Epidural hematoma, head trauma, MRI

Introduction

The collection of blood between the dura mater and cranial bones is called epidural hematoma. It is a condition that may require urgent intervention and can lead to serious morbidity and mortality if untreated (1). Acute epidural hematomas seen after head trauma are cases in which follow-up and if necessary emergency surgical intervention may be required. (2,3). It is very

rare to be seen before the age of 2 and after the age of 60 due to the dura adhering more tightly to the inner tabula (4). In brain CT (computed tomography), they are biconvex, sharply demarcated in multiple sections, developing between the inner tabula and dura, and are usually hyperdense hemorrhages with homogeneous density, but they can also rarely be seen as isodense (5,6). In our case, an isodense epidural hematoma was observed in the CT scan of the patient who was admitted to the emergency room with head trauma after dizziness. The patient's diffusion MRI showed a hyperintense epidural hematoma. In this case, we wanted to draw attention to the importance of MRI in case the diagnosis of isodense epidural hematoma is missed.

Case

A 67-year-old female patient was admitted to the emergency department due to head trauma following dizziness. The patient had been hit in the left occipital region, had pain and edema. On physical examination, she was conscious, Glasgow Coma Scale (GCS): 15, and neurological examination was normal. The patient's vital signs were arterial blood pressure: 150/90 mmHg, pulse: 92/min, temperature: 36.5 °C, fPO₂: 96%. He had chronic renal failure and hypertension in his medical history. In the patient's blood tests, urea was 93 mg/dl, creatine was 6.26 mg/dl, hemoglobin was 12.7 g/dl, hct was 39%, platelet was 310 10⁹/L. CT was requested for the patient. In the CT scan, on the left of the midline at the level of the posterior fossa there was a mass? epidural hematoma? measuring 30x20 mm was available. (Figure-1). Diffusion MRI was performed for other cranial pathologies in the patient who had head trauma after dizziness. In the diffusion MRI (Magnetic Resonance Imaging), an epidural hematoma was observed in the posterior fossa at the level of the cerebellar hemisphere (Figure-2). The patient was consulted to a neurosurgeon. The patient, whose general condition deteriorated and whose epidural hematoma increased in the control CT scan (Figure-3), was taken into operation.



Figure-1: Isodense epidural hematoma in the posterior fossa

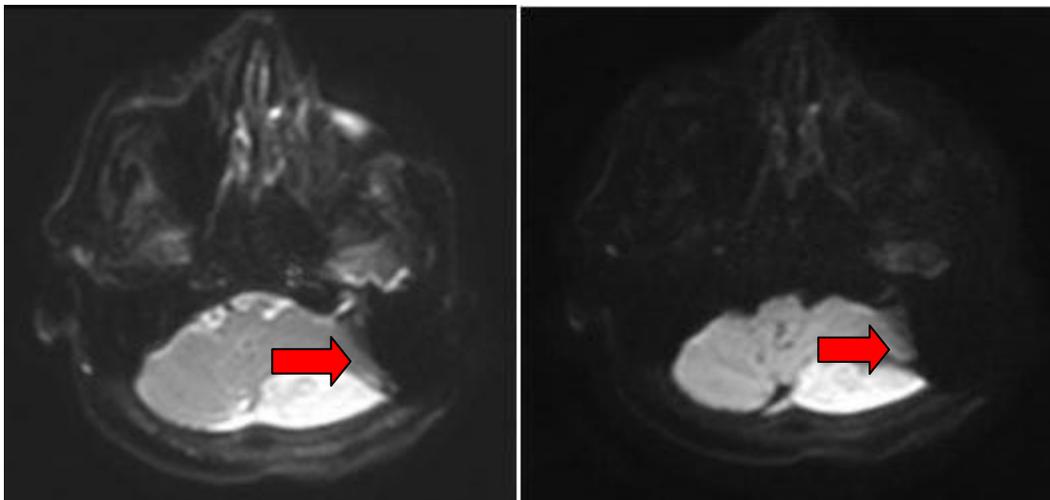


Figure-2: Hyperintense epidural hematoma on diffusion MRI



Figure-3: Hyperdense epidural hematoma in control CT

Discussion

Epidural hematomas, which occur in 1% of all head traumas, are examined in two groups: acute and late venous epidural hematomas. The bleeding source is 85% arterial. The most common cause of hematomas is middle meningeal artery injury (4). The most accepted etiology to date is that temporoparietal bone linear fracture edges arise from tears occurring in the pterion region at the exit point of the artery from the bone canal and/or in its subsequent branches (4,6). In CT, epidural hematomas can be seen as hyperdense, isodense or hypodense depending on the time of bleeding (7,8). It is said that the formation of an isodense image in CT is related to the erythrocyte and hemoglobin protein concentration and, to a lesser extent, the iron in the hemoglobin molecule (8). The fact that the serum hemoglobin value is in the range of 9-11 g/dL may be a reason why the brain has approximately the same density on CT. There are three possible reasons for this appearance. The first is the absence of fresh blood in the bleeding in the epidural space, the second is the decrease in shaped elements in the blood due to low hematocrit, and the third is the mixed blood and cerebrospinal fluid (7-10). In the CT of the case we present, the epidural hematoma appears isodense and cannot be clearly differentiated from a mass. In the diffusion MRI, the epidural hematoma is clearly seen as hyperintense. We wanted to emphasize that diffusion MRI can be performed for the differential diagnosis of epidural hematoma, which is seen as isodense on CT, which is a rare condition.

Conclusion

Hematomas can also be seen as isodense on CT, which may cause the diagnosis to be missed or misdiagnosed. Therefore, we found that in suspicious cases, MRI may be useful to clarify the diagnosis of these cases.

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TEMPOROMANDIBULAR JOINT REDUCTION-RELATED ACUTE ISCHEMIC STROKE

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Abstract

Temporomandibular joint (TMJ) dislocation is a rare clinical condition in which patients immediately seek medical attention due to severe pain. Although multiple methods can be tried to reduce the dislocation, the most commonly used traditional method is the intraoral technique. Acute ischemic stroke; It is a clinical condition that occurs when blood flow drops below a critical level due to blockage or narrowing of the vessels leading to the brain. In this case, we will present the ischemic cerebrovascular event that developed after reduction in a patient with jaw dislocation.

Case

A 36-year-old male patient applied with complaints of pain in the jaw when yawning, inability to close his mouth, and inability to speak, vitals were stable. X-ray of the patient with previously known ventricular septal defect and right ventricular hypertrophy showed dislocation of the right TMJ (fig. 1). The dislocated joint of the patient was reduced by the manual traditional intraoral method by the otolaryngologists. The patient, who returned to the emergency room, was re-examined due to the newly developed complaints of loss of strength in the left arm and leg and inability to speak. In the physical examination, the motor strength in the left upper and lower extremities was 3/5 and the patient was dysarthric. The patient's laboratory values were normal. In the patient's computed tomography (CT), there was a subacute infarction at the basal ganglia level on the right side. Based on the compatible image (Figure 2), diffusion magnetic resonance (MR) imaging was planned. Here, an infarct area was detected on the right at the

basal ganglia level (figure 3). While thrombolytic therapy was planned for the patient, when the patient's complaints completely returned to normal, thrombolytic therapy was abandoned and anticoagulant therapy was started. The patient was admitted to the neurology service for follow-up and treatment.

Conclusion

Our patient developed an ischemic stroke as a result of the interruption of flow in the carotid artery or the separation of thrombus from the vessel wall during the reduction of jaw dislocation.

Keywords: stroke, Temporomandibular Joint Reduction , Temporomandibular joint dislocation

TEMPOROMANDIBULAR JOINT REDUCTION-RELATED ACUTE ISCHEMIC STROKE

Introduction

The temporomandibular joint (TMJ) is a diarthrodial joint located between the mandibular condyle and the mandibular fossa of the temporal bone, just in front of the external auditory canal. TMJ dislocation is a rare clinical condition in which patients present to the emergency department quickly due to severe pain[1]. While it can be traumatic, non-traumatic dislocations can also occur following activities such as yawning, chewing, speaking, or laughing. The most commonly used traditional method for reducing dislocation is the intraoral technique, where the mandible is grasped between two hands and thumbs at the level of the lower molars, then the mandible is first pushed down and then backward to relocate it [2]. Acute ischemic stroke is a clinical condition caused by a critical reduction in blood flow to the brain due to occlusion or narrowing of blood vessels[3]. Ischemic stroke accounts for 80% of all strokes. Thrombolytic therapy or thrombectomy may be administered depending on the time of presentation. In this case, we will present a case of acute ischemic cerebrovascular event following jaw dislocation reduction.

Findings

A 36-year-old male patient presented to the emergency department complaining of pain in the jaw, inability to close the mouth, and difficulty speaking while yawning. The patient's general condition was good, and vital signs were stable. The patient had a known history of ventricular septal defect and right ventricular hypertrophy. X-ray revealed a dislocation of the right TMJ (Figure 1). The dislocated joint was manually reduced by ENT physicians using the traditional intraoral method, and the patient was sent back to the emergency department. Upon returning to the emergency department, the patient was re-examined due to new-onset weakness in the left arm and leg and difficulty speaking. Physical examination revealed motor weakness of 3/5 in the left upper and lower extremities, and the patient was considered dysarthric. Vital signs were stable, and laboratory values were normal. Computed tomography (CT) scan of the brain showed subacute infarction compatible with the basal ganglia on the right side (Figure 2). Diffusion magnetic resonance imaging (MRI) revealed an infarct area at the level of the basal ganglia on the right side (Figure 3). Brain-neck CT angiography showed no acute pathology. Thrombolytic therapy was planned for the patient, but due to complete resolution of symptoms, thrombolytic therapy was abandoned, and anticoagulant therapy was initiated. The patient was admitted to the neurology service for follow-up and treatment purposes.

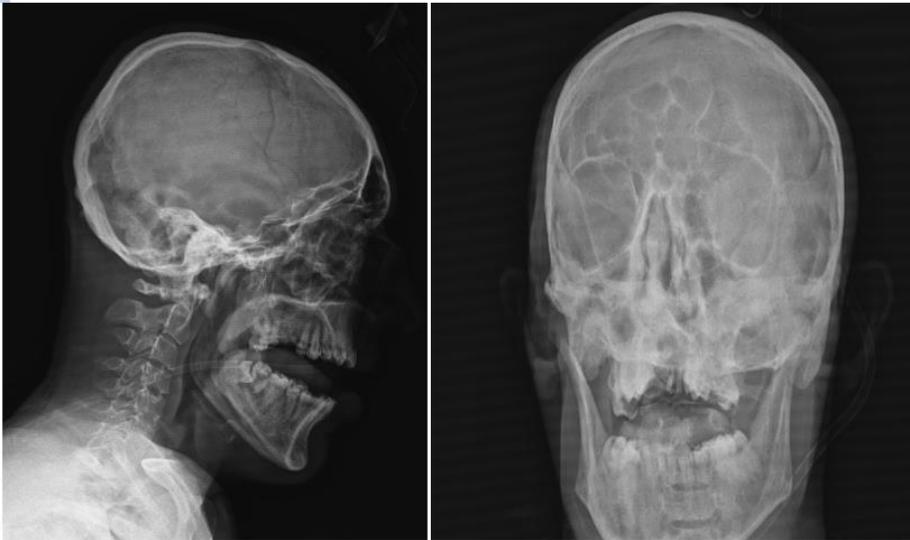


Figure 1: Right Temporomandibular Joint Dislocation X-Ray image

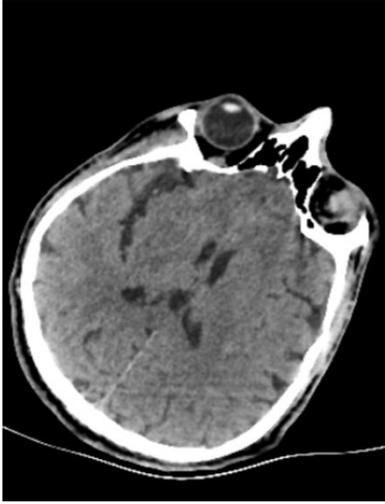


Figure 2: The patient's non-contrast cranial computed tomography image

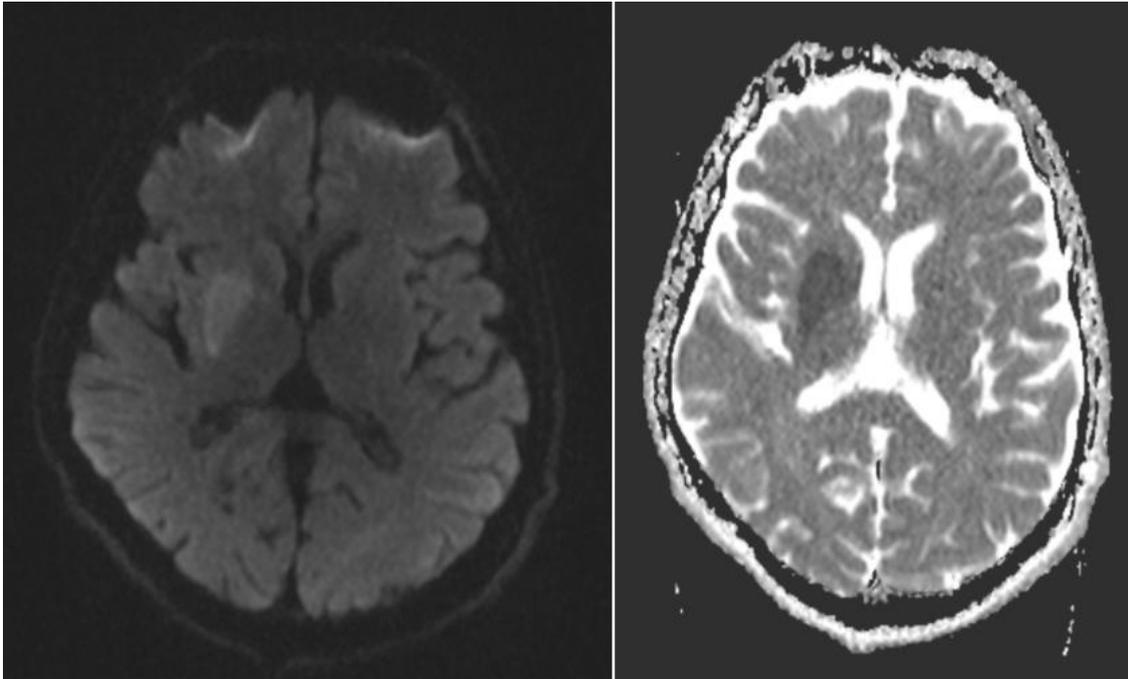


Figure 3: The patient's cranial magnetic resonance image

Conclusion

In our patient, an acute ischemic stroke occurred as a result of carotid artery occlusion or thrombus detachment from the vessel wall during temporomandibular joint reduction, a rare clinical event. Especially in patients at risk for ischemic stroke, alternative reduction methods may be preferable to manual methods, as temporary interruption of carotid flow may occur during intraoral reduction.

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4025

Spontaneous or Iatrogenic Esophageal Rupture?

Introduction:

Esophageal perforation is a rare pathological condition, but its incidence has increased in recent years due to invasive interventions, and it is usually the last pathological condition that comes to mind when we list the prediagnoses for fatal chest pain with high mortality.

Oesophageal perforation has a high morbidity and mortality rate due to its close relation to vital organs, mediastinal and pleural inflammation and infection in a short time, followed by sepsis. Although it is quite rare, its mortality is between 10-20%. Delay in diagnosis is directly related with mortality. Therefore, diagnosis and treatment planning should be made rapidly in the emergency department.

Case:

A 40-year-old male patient with known mental retardation and peptic ulcer disease was referred to our emergency department by 112 teams because of gastric pain, vomiting and minimal pneumothorax on the right side, worsening of his clinical condition and hypotension.

On admission, blood pressure was 87/55 mmHg, oxygen saturation was 99%, and heart rate was 98. On examination, the abdomen was relaxed and lung sounds were found to be decreased in bilateral lower zones. Laboratory findings at presentation and progression during follow-up are shown in Table 1.

Table 1.

▶ Complete Blood Count

- ▶ White Blood Cell : 7100 /ml → 5740 /ml
▶ Haemoglobin 13.7 g/dl → 13.8 g/dl
▶ Platelet: 475,000 /ml → 469,000 /ml

▶ Biochemistry

- ▶ Blood Urea Nitrogen: 36 mg/dl → 40 mg/dl
▶ Creatinine 2.66 mg/dl → 3.38 mg/dl
▶ Sodium: 131 mmol/l → 136 mmol/l
▶ Potassium: 5.2 mmol/l → 5.6 mmol/l
▶ Amylase 102 u/l → 290 u/l
▶ ALT: 12 u/l → 61 u/l
▶ AST: 67 u/l → 98 u/l
▶ Lipase 54 u/l
▶ C reactive protein : 21,2 mg/l

This patient was admitted to our emergency department at 04.30 in the morning and his CT scan was repeated at 07.00 during follow-up because of increased tachycardia and tachypnoea. Tube thoracostomy was applied to the right hemithorax due to increased pneumothorax especially on the right side. (Figure 1) The fluid coming into the thoracostomy tube was thought to be gastric dilatation fluid. (Figure 2) Emergency endoscopy was planned for the patient who was thought to have oesophageal rupture.

Figure 1.

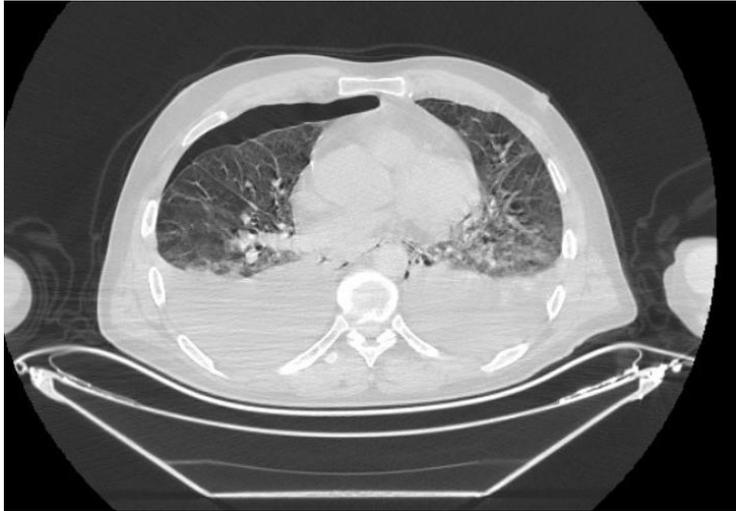


Figure 2.



The patient whose hypotension deepened and haemodynamics deteriorated during transfer to endoscopy was brought back to the emergency department and electively intubated. Cardiac arrest developed during intubation and CPR was performed for 5 minutes in the emergency

department and response was obtained. The patient who was followed up intubated with positive inotropic support was admitted to the 3rd level anaesthesia and reanimation intensive care unit.

Discussion:

Oesophageal injuries are rare but fatal. Emergency management is challenging and mortality is still high. Management is multidisciplinary and includes emergency medicine, general surgery and thoracic surgery, anaesthesia, otorhinolaryngology, gastroenterology and radiology clinics. Treatment of oesophageal injury depends on the cause, extent of damage and localisation (neck, thorax and abdomen). Whilst oesophageal perforation was previously generally caused by barogenic or traumatic causes, iatrogenic causes have recently come to the fore.

- The most common cause is 60% iatrogenic (diagnostic endoscopy, dilatation, variceal ligation, sclerotherapy, etc.).
- Apart from iatrogenic causes, the most common cause is spontaneous rupture (Boerhaave syndrome).
- Foreign body ingestion, caustic substances, trauma and tumour are other causes of oesophageal perforation.
- Perforations occur most frequently in the intrathoracic part of the oesophagus (57%), followed by the cervical part (27%) and least frequently in the intraabdominal part (19%).

In the anamnesis of our patient, it was learned that nasogastric catheter insertion was attempted in an external centre because vomiting did not respond to anti-emetics, but it was difficult because of the non-compliance of the immobile patient with mental retardation and the procedure failed after several attempts. This situation suggested iatrogenic rupture of the oesophagus or spontaneous rupture (Boerhaave syndrome) in a patient with a diagnosis of peptic ulcer.

Keywords: Esophageal rupture, spontan, iatrogenic

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A patient with left flank pain and renal, splenic and cerebral infarcts: A case report

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INTRODUCTION

Cardioembolic conditions (atrial fibrillation, etc.) and hypercoagulable states are the main reasons for the detection of infarction at various sites in patients (1-3). Prone patients may be diagnosed with infarcts in multiple localizations (3,4). In this case, the situation becomes complicated and management becomes difficult. It is especially critical to identify the underlying cause and to organize treatment accordingly. Since the cause of the infarction is a thromboembolic phenomenon, a cardiac investigation is necessary (5) (echocardiography, electrocardiography and holter monitoring to evaluate arrhythmia). Researching for hypercoagulability should also be considered (researching for antiphospholipid antibodies, Factor V Leiden mutation, antithrombin III activity, protein C, protein S, homocysteine levels) (6).

A 44-year-old woman presented to the emergency department with left flank pain and was eventually diagnosed with multiple infarcts. In this case, we presented a patient who presented with a seemingly simple symptom and received multiple embolic diagnoses together after a comprehensive investigation.

Keywords: infarction, hypercoagulability, cardioembolic

CASE

A 44-year-old woman presented to the emergency department with left flank pain. Physical examination revealed no pathology except for left costovertebral angle tenderness. In her anamnesis, she stated that she had dysarthria and weakness in her left arm 5 days ago, but

it resolved spontaneously. The patient had a history of anterior cerebral artery (ACA) and middle cerebral artery (MCA) infarction 1 year ago, hypertension, hyperlipidemia and missed abortion. The MTHFR gene was found to be heterozygous in the internal medicine examination 1 year ago after the patient presented with similar complaints. Medications used Atorvastatin 10 mg perioral (p.o), clopidogrel 75 mg p.o, telmisartan/hydrochlorothiazide 80/12.5 mg. Hemogram, biochemistry, C-reactive protein (CRP), prothrombin time (PT), activated partial thromboplastin time (aPTT) were within normal limits. Electrocardiography revealed no pathology. Diffusion magnetic resonance imaging showed watershed (Figure-1) and cerebellar infarction (Figure-2). The patient was consulted to neurology and enoxaparin 0.6 IU 2x1 subcutaneously (s.c) treatment was started. Contrast-enhanced abdominal imaging revealed "4x2 cm capsular infarct area in the left kidney middle pole posterior, 1 cm infarct area in the right kidney lower pole, and infarct area in the spleen" (Figure-3). The patient was consulted to urology and general surgery departments. Both departments recommended continuation of the recommended anticoagulant therapy. The patient was discharged after outpatient follow-up was recommended to the consulted departments.

The patient presented to the emergency department 2 days later, this time complaining of tremor in the left hand lasting for a few minutes. He also complained of weakness in the left foot. Physical examination in the emergency department revealed no pathology. No new infarct area was detected in the imaging studies. The patient was consulted to neurology and continuation of the current treatment was recommended.

After 2 days, the patient presented to the neurology outpatient clinic for control and was hospitalized in the ward for further investigation and treatment. In the patient's family history, it was learned that one of his siblings had pulmonary embolism at the age of 40, another sibling had ischemic cerebrovascular disease at the age of 50, and his mother had retinal artery occlusion at the age of 75. C-ANCA, anti ds DNA, anti nuclear antibody (ANA), anti-sm, anti-jo1, anticardiolipin Ig M/Ig G, homocysteine, protein C, protein S, Brucella (Rose Bengal) and tube agglutination, Antithrombin III activity, C4-C3, were sent. All of them were negative. Transthoracic echocardiography (ECHO) revealed no pathology. Lumbar Ponscion (LP) was performed. Glucose, albumin, sodium, gram stain and CSF culture were found within normal limits. During follow-up, the patient complained of pain and weakness in the right lower

extremity and arterial-venous doppler ultrasound (USG) imaging was performed. No pathology was detected. Electromyography was performed and no pathology was detected. Diffusion MR imaging revealed "diffusion limitation in the left ACA irrigation area". The patient was consulted to internal medicine for vasculitis and Fabry test was ordered in addition to the previously ordered tests. The patient was consulted to cardiology for transesophageal echocardiography. ECHO revealed a thrombus with a diameter of 0.8x0.5 cm in the subaortic region of the left ventricular outflow tract (LVOT) and warfmadin 5 mg 1x1 treatment was initiated and he was called to outpatient clinic control for PT (INR) level after 1 month.

CONCLUSION

We presented a patient who presented with a seemingly simple symptom and with clinical suspicion, good anamnesis and necessary investigations, a potentially fatal diagnosis was made and early treatment was initiated. When an infarct is detected in a patient, we should not hesitate for further investigations and maximum attention, assuming that this patient may have a predisposition to one of the cardioembolic or hypercoagulable conditions.

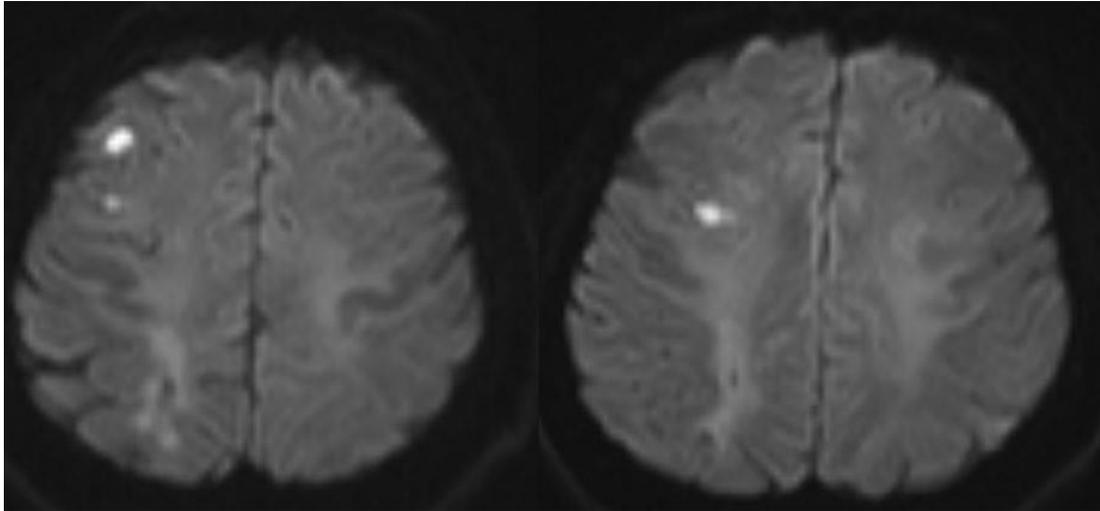


Figure-1: Watershed infarct on diffusion MR imaging

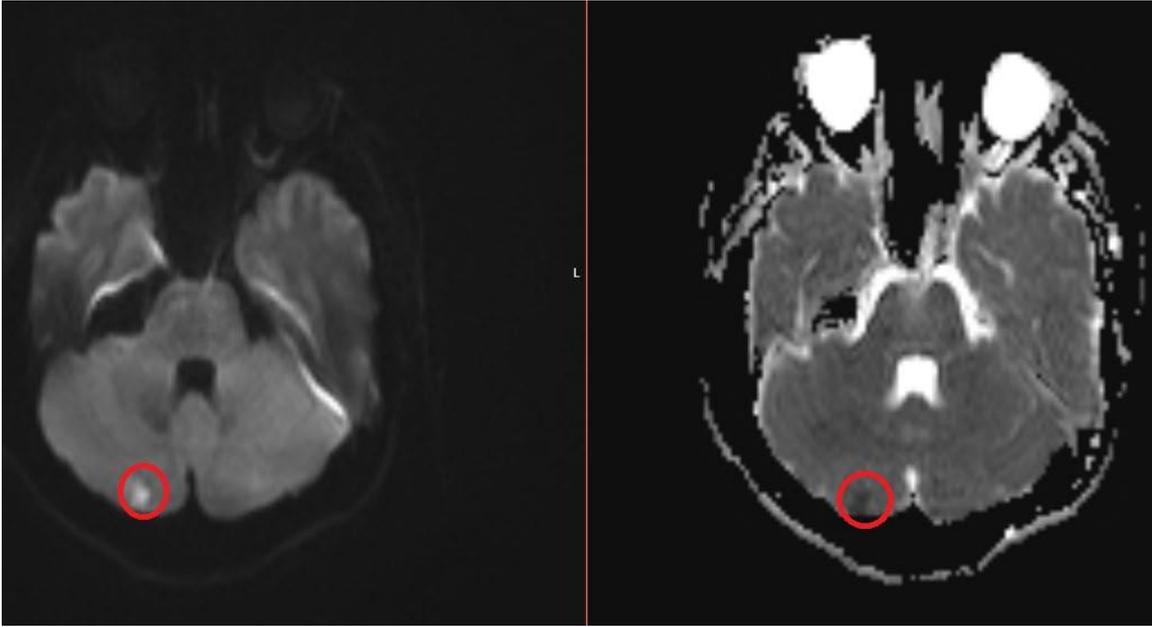


Figure-2: Cerebellar infarct on diffusion MR imaging



Figure-3: Infarction in both kidneys on contrast-enhanced abdomen tomography

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4086

Toxic Hepatitis Due To Amoxicillin-Clavunate

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Introduction and Purpose

The liver is one of our main organs that metabolize and eliminate drugs and various exogenous substances. For this reason, liver toxicity is common due to microbial, natural, industrial toxins, drugs and metals. ^(1,4)

In patients with jaundice or impaired liver function values that suggest a preliminary diagnosis of toxic hepatitis, the medications they take, the chemicals they are exposed to at home or at work, herbal medicines or complementary medicine products should be investigated and questioned. ^(1,5)

Drug-induced liver damage is a common condition, with an incidence ranging from 1/100 to 1/100,000. This case report emphasizes the importance of questioning the medications used in patients who develop acute hepatitis. ⁽⁴⁾

Materials and Methods

The anamnesis of a 47-year-old female patient with a known diagnosis of hypertension, hyperlipidemia and asthma, who was referred to us from an external center due to high levels of asthma, hyperlipidemia and bilirubin showed that she was admitted to the external center. The patient used 1 box of Augmentin and a few tablets of Aferin, Mucinax-c, Levopront and Levmont.

The patient's arrival vitals were stable. On physical examination, his general condition was good, there was widespread tenderness in the abdomen, and there was no defensive rebound. There were minimal rhonchi in lung sounds. In the laboratory tests taken, ast:1578 alt:1134

alp:241 ggt:820 U/L tot bil:2.7 and dirbil:1.8mg/dl were detected. Anti hbs ag neg, anti hbcigm neg, hbs ag neg, anti hbcig g neg, anti hav ig g neg were detected in the hepatitis serology at the external center.

Contrast-enhanced abdominal tomography performed on the patient revealed no acute pathology other than situs inversus. The patient was consulted to the gastroenterology department with the preliminary diagnosis of drug-induced toxic hepatitis. Nac infusion was started to the patient, and hydration and analgesia were provided. The patient was admitted to the gastroenterology service with the preliminary diagnosis of drug-induced toxic hepatitis.

Results and Conclusion

Anamnesis and physical examination are of great importance in patients with high LFT.

In our country, Amoxicillin-Clavunate is prescribed quite frequently, especially for upper respiratory tract infections. The patient's chronic diseases and recent medications should be questioned. (2,3,5)

Key Words: Toxic hepatitis, amoxicillin-clavunate, drug-induced liver injury, elevated liver function tests.

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4105

The underlying rare cause identified in an infant presenting with trauma;

Short Title: Stroke Or Trauma

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Introduction

Cerebrovascular stroke is an emergency condition caused by a decrease in blood flow to the brain due to various reasons.

Stroke is one of the most common cause of death in the world and more importantly, it is the most important cause of disability (1).

It can present with symptoms such as facial asymmetry and arm weakness, dizziness and a sensation of weakness.

Cardiovascular anomalies, infections, and genetic thrombotic disorders are among the primary causes of ischemic strokes in children. (2,3).

Case

An 18-month-old male patient was brought to our emergency department due to falling out of bed. He was favoring his left side after the fall. No signs of trauma were detected.

Patient's Glasgow was 15 and he can communicate freely. Although he can sit on his will, he cannot walk because of his weakness.

Left lower and upper extremities have 3/5 strength, and there is reduced deep tendon reflex (DTR) activity, babinski and hoffman positivity on the left side.

After the CT Scan ruled out the bleeding, patients Diffusion MR result showed us infarction in the corpus callosum

Patient was started on Clexane and Epixx for acute cerebral ischemia. Echocardiography was performed for etiological assessment, and resulted normal.

The patients blood tests exhibited low Factor 8 and 9 levels, and the genetic panel revealed heterozygous mutations about thrombotic diseases.

At the follow-up appointment two months later, it was observed that the patient's neurological symptoms had fully resolved.

Discussion

Acute ischemic stroke is becoming an increasingly serious cause of mortality and morbidity in children, with its frequency on the rise (4).

Patients with symptoms such as seizure, unilateral weakness, and difficulty speaking, we should consider stroke as initial diagnosis . It is crucial to obtain a brain CT scan to confirm that it isn't bleeding (5).

If ischemic stroke is suspected in the patient, the diagnosis should be clarified by a Diffusion-Weighted MRI, and the patient should be brought into the safety circle with the ABC protocol.

Children often present to us with trauma and post-traumatic sequelae. While the patient's history may guide us towards trauma, cerebral infarction should be considered.

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Key Words: Stroke, Trauma, Infant, Ischemic, Thrombotic Diseases, Cardiovascular Anomalies

4200

Hemoptizinin Nadir Bir Sebebi: Aortabronşial Fistül

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ÖZET

Giriş

Hemoptizinin nadir bir nedeni olarak görülen aortabronşial fistül ciddi mortalite ile ilişkili olup, erken tanı ve cerrahi müdahale gerektiren bir durumdur. Aortun intrapulmoner adezyonu, aort anevrizmasının nadir görülen, ciddi mortalite ve morbiditeye neden olan bir komplikasyonudur.

Olgu

66 yaşında erkek hasta yarım saat içinde başlayan ve 1 su bardağı kadar miktarda hemoptizi şikayetiyle acil servise başvurdu. Hemoptizi nedenini aydınlatmak adına hastaya çekilen torakoabdominal aorta ve pulmoner arter bilgisayarlı tomografi anjiyografi (BTA) görüntülemelerinde Stanford tip A diseksiyonu görüldü. Ayrıca torakal aorta ve sol üst bronşial arter arasında fistül geçişi saptandı.

Tartışma

Aort operasyonu öyküsü olan hastalarda birçok anatomik ve fizyolojik komplikasyonlar meydana gelebilmektedir. Bu komplikasyonlar arasında nadir görülen sebeplerden birisi de aortabronşial fistüldür. Bu fistüller senkop, angina, hemoptizi gibi semptomlar ile belirti vermektedir. Ayrıca miyokard enfarktüsü, kardiyak aritmiler, kalp yetmezliği ve ani ölüme neden olabilirler

Sonuç

Sonuç olarak geçirilmiş aort operasyonunun geç komplikasyonu olan false anevrizma ve buna bağlı olarak gelişen aortabronşial fistül, erken tanı ve acil cerrahi tedavi gerektiren, tedavi edilmediği takdirde ölüme sonuçlanabilen nadir bir komplikasyondur.

Anahtar Kelimeler: Aortabronşial fistül, hemoptizi, psödoanevrizma

A Rare Cause Of Hemoptysis: Aortic Bronchial Fistula

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ABSTRACT

Introduction

Aortobronchial fistula, which is a rare cause of hemoptysis, is associated with serious mortality and requires early diagnosis and surgical intervention. Intrapulmonary adhesion of the aorta is a rare complication of aortic aneurysm that causes serious mortality and morbidity.

Case

A 66-year-old male patient was admitted to the emergency department with the complaint of hemoptysis, which started within half an hour and amounted to the size of 1 glass of water. Stanford type A dissection was observed in thoracoabdominal aorta and pulmonary artery computed tomography angiography (CTA) imaging performed on the patient to elucidate the cause of hemoptysis. Additionally, a fistula was detected between the thoracic aorta and the left upper bronchial artery.

Discussion

Many anatomical and physiological complications may occur in patients with a history of aortic surgery. One of the rare causes of these complications is aortobronchial fistula. These fistulas present with symptoms such as syncope, angina, and hemoptysis. They can also cause myocardial infarction, cardiac arrhythmias, heart failure and sudden death.

Conclusion

As a result, false aneurysm, which is a late complication of previous aortic surgery, and the resulting aorta-bronchial fistula, is a rare complication that requires early diagnosis and urgent surgical treatment and can result in death if left untreated.

Keywords: aortabronchial fistula, hemoptysis, pseudoaneurysm

Giriş

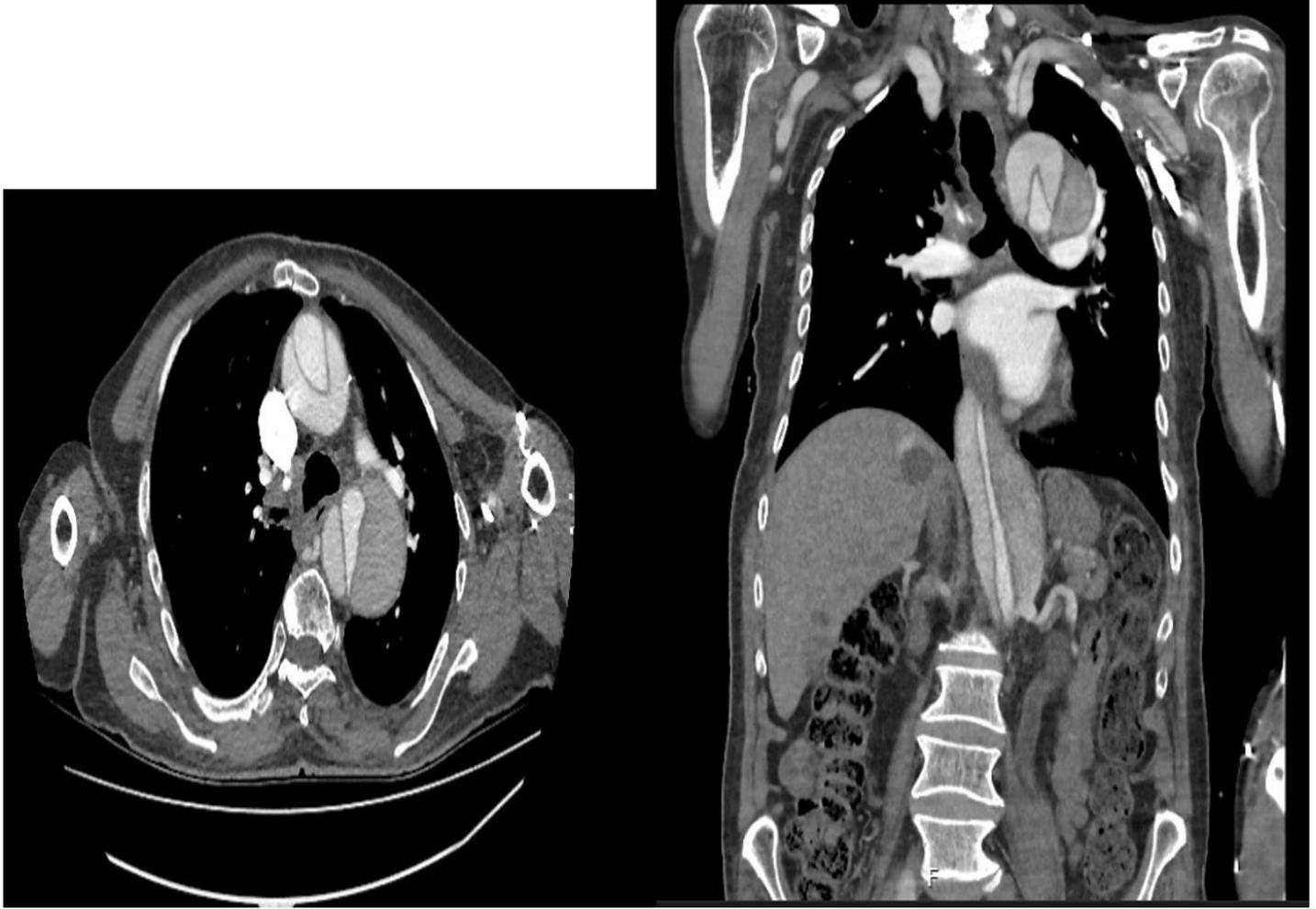
Hemoptizi solunum sistemi hastalıklarında ortaya çıkan, araştırılıp nedeninin bulunması gereken önemli bir semptomdur. Hemoptizinin sık görülen nedenleri arasında solunum yolu enfeksiyonları (bronşit, bronşiolit, pnömoni gibi), bronşektazi, astım, kronik obstruktif akciğer hastalığı (KOAH) ve malignite sayılmaktadır. Afrika ve asya gibi sosyokültürel açıdan az gelişmiş bölgelerde ise en sık neden tüberkülozdur¹. Hemoptizinin çok nadir görülen bir sebebi de aortabronşial fistüldür. Bu durum ile karşılaşılan olgularda massif hemoptizi görülebilmektedir. Aortabronşial fistül; aort ülserine, travmaya bağlı aort yaralanmalarına, mikotik anevrizmalara veya daha öncesinde geçirilen aort cerrahisine bağlı bir komplikasyon olarak oluşabilmektedir². Aortun intrapulmoner adezyonu, aort anevrizmasının nadir görülen, ciddi mortalite ve morbiditeye neden olan bir komplikasyonudur³. Bu vakada hemoptizi ile gelen hastada nadir bir hemoptizi nedeni olarak geçirilmiş bir aort cerrahisine bağlı oluşan aortabronşial fistülizasyon gelişmesi anlatılacaktır.

Olgu

66 yaşında erkek hasta yarım saat içinde başlayan ve 1 su bardağı kadar miktarda hemoptizi şikayetiyle acil servise başvurdu. Ek şikâyeti olmayan hastanın, solunum sesleri bilateral bazallerde kabalaşmış, dinlemekle her iki hemitoraks solunuma eşit katılıyor, periferik nabızlar açık ve eşit, batın rahat, defans ve rebound yok. Kan basıncı 150/90 mm/Hg, nabız 96 atım/dk, ateş 36,2 santigrat derece, oksijen satürasyonu oda havasında %95 olarak ölçülmüştür. Özgeçmişinde kalp kapak replasmanı, asendan aort grefti operasyonu, KOAH mevcut. Metoprolol, asetilsalisilik asit, varfarin kullanıyor.

Hemoptizi nedenini aydınlatmak adına hastaya çekilen torakoabdominal aorta ve pulmoner arter bilgisayarlı tomografi anjiyografi (BTA) görüntülemelerinde Stanford tip A diseksiyonu görüldü. Ayrıca torakal aorta ve sol üst bronşial arter arasında fistül geçişi saptandı. Fistüle bağlı hemoptizi düşünülerek kalp damar cerrahisi branşına konsülte edildi. İlgili branş tarafından yoğun bakım yatışı uygun görülen hastanın iki gün süren takip sonrası aortabronşial fistül nedeniyle cerrahiye alındı. Operasyon esnasında desendan aortanın subklavyen arter dalının çıkış noktasından itibaren anevrizmatik görünümde olduğu ve sol bronşial arterin aortadaki psödoanevrizmaya yapışık olduğu görüldü. Yapışıklıklar giderildi. Desendan aort replasmanı yapıldı ve işlem başarı ile sonlandırıldı

Postoperatif süreçte yoğun bakım ünitesinde ve servis takiplerinde herhangi bir komplikasyonla karşılaşılmayan hasta şifa ile hastaneden taburcu edildi.



Şekil 1. BT Anjiografi aksiyal (A) ve koronal (B) kesitlerinde desendan aorta subklavyen arter dalının çıkış noktasından itibaren anevrizmatik ve sol bronşial arter aortadaki psödoanevrizmaya yapışık

Tartışma

Aort operasyonu öyküsü olan hastalarda birçok anatomik ve fizyolojik komplikasyonlar meydana gelebilmektedir. Bu komplikasyonlar arasında nadir görülen sebeplerden birisi de aortabronşial fistüldür. Bu fistüller senkop, angina, hemoptizi gibi semptomlar ile belirti vermektedir. Ayrıca miyokard enfarktüsü, kardiyak aritmiler, kalp yetmezliği ve ani ölüme neden olabilirler⁴.

Sunulan vakada hastaya aort anevrizması nedeniyle aort grefti ve kapak replasmanı uygulanmış ve geç dönem komplikasyonu olarak aortabronşial fistülün meydana geldiği düşünülmüştür. Aortabronşial fistüller, geç dönemde prostetik greft sütürlerinin neden olduğu inflamatuvar cevaba sekonder dokular arasında patolojik fiksasyon oluşması ile meydana gelebilmektedir⁵.

Aort ile bronşial arter arasında fistül gelişen olgular semptomatik ve asemptomik olabilmektedir. Vakamızda ise günlük pratikte çok nadir görülen semptomlardan hemoptizi meydana gelmiştir.

Aortabronşial fistül tanısı akciğer grafisi, bronkoskopi, anjiyografi, bilgisayarlı tomografi (BT) ve magnetik rezonans görüntüleme (MR) teknikleri kullanılarak konulabilmektedir. Anevrizmanın erken tanımlanmasında ilk adımda kullanılan fakat spesifik olmayan metod akciğer grafisidir⁶. Günlük pratikte acil servislerde spesifik olabilecek noninvaziv yöntemlerden bir tanesi BTA'dır. MR ise vasküler yapılar ve yumuşak doku arasında mükemmel kontrast sağladığı için tanı amaçlı kullanılabilir⁷.

Anatomik olarak çıkan aortta gelişen anevrizma bronşial arter ile yakın komşuluk kurabilmektedir. Bunun sonucunda desendan aortanın posterior kısmında oluşan bir kanama veya hematoma, bronşial arter çevresine yayılabilir. Bu yüzden bu tür olgular bizlere hemoptizi semptomuyla gelebilmektedir. Tanı konulduktan sonra acil cerrahi müdahale gerekmektedir. Stanford tip A diseksiyonu tek başına bile başlı başına ciddi mortalite sebebiyken, nadir olan bu komplikasyon ile birleştiğinde mortalite oranı daha da çok artış göstermektedir. Stanford tip A diseksiyonuna eşlik eden hemoptizilerin prognozunun kötü seyrettiği görülmektedir. Rapor edilen yaklaşık 15 vakadan sadece 4 tanesi sağ kalım şansı yakalamıştır⁸. Vakamız cerrahi sonrası tam iyilik hali ile taburcu olmuştur.

Sonuç

Sonuç olarak geçirilmiş aort operasyonunun geç komplikasyonu olan false anevrizma ve buna bağlı olarak gelişen aortabronşial fistül, erken tanı ve acil cerrahi tedavi gerektiren, tedavi edilmediği takdirde ölümlü sonuçlanabilen nadir bir komplikasyondur. Daha önce torasik aortada operasyon öyküsü olup, hemoptizi şikâyeti ile gelen ve akciğer grafisinde mediastinal kitle saptanan olgularda aortabronşial fistül akla gelmelidir.

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4365

ABDOMINAL AORTIC ANEURYSM RUPTURE, A RARE OBSERVATION IN A PATIENT WHO ADMITTED TO THE EMERGENCY DEPARTMENT WITH RIGHT SIDE PAIN.

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ABSTRACT

Aneurysm is defined as focal dilatation with an increase of at least 50% in the normal diameter of the artery. Accordingly, the abdominal aorta must be at least 3 cm in size. Abdominal aortic aneurysm is a relatively common, life-threatening condition.

The normal diameter of the infrarenal aorta is 1.5 cm in women and 1.7 cm in men after the age of 50. The limit considered to be an abdominal aortic aneurysm is an infrarenal diameter of 3 cm or more, even if asymptomatic. 90% of abdominal aortic aneurysms are infrarenal.

In our case, the patient who presented with right flank pain radiating to the leg and had a known bladder stone, was diagnosed with an abdominal aortic aneurysm rupture at the infrarenal level as a result of CT evaluation. In our case, all peripheral pulses of the patient were palpable. In our case, although the patient had renal colic, contrast-enhanced whole abdominal tomography was requested because the pain was radiating to the leg and the patient was hypotensive. As a result of CT, aneurysmatic dilatation of 10 cm in diameter was noted in the patient's abdominal aorta at the infrarenal level. A retroperitoneal hematoma, measuring 18*10 cm at its widest point, was observed adjacent to the abdominal aorta. It was considered secondary to abdominal aortic aneurysm rupture. It is presented to keep in mind mortal diagnoses such as abdominal aortic aneurysm rupture in patients who are known to have a history of renal colic and come to the emergency department with the complaint of side pain.

Key words: emergency department, flank pain, aortic aneurysm rupture

INTRODUCTION AND PURPOSE

Abdominal aortic aneurysm (AAA) is the expansion of the aorta at the subdiaphragmatic level to 1.5 times its normal diameter. The incidence rate in the whole population is between 3-5%. The incidence rate increases in direct proportion to age, 5% over the age of 65; It occurs with a frequency of 9% in people over the age of 75. It is 5 times more common in men than women. Detection of a pulsatile mass during physical examination along with abdominal pain should raise suspicion of AAA and rupture. It has been reported that the risk of rupture in abdominal aortic aneurysm is related to the diameter of the aneurysm.

Since the natural course of an aneurysm is progressive growth and eventually rupture, the diagnosis should be made as soon as possible. Contrast-enhanced thoracoabdominal computed tomography is a frequently used method in diagnosis recently. Detection of a ruptured AAA is a life-threatening clinical situation that requires urgent intervention.

Abdominal aortic aneurysm is caused by degeneration in the media layer of the arterial wall, which causes slow and continuous dilatation of the lumen of the vessel. It is the result of insufficiency of the main structural proteins of the aorta (collagen, elastin). The factors that cause this condition to occur are unknown. However, there is a genetic predisposition. Degeneration ultimately results in widening of the vascular lumen and loss of structural integrity.

The biggest risk factors for abdominal aortic aneurysm rupture are being over 65 years of age, male, and having peripheral atherosclerotic vascular disease. Chronic obstructive pulmonary disease, previous aneurysm repair or the presence of a peripheral aneurysm, coronary artery disease, and hypertension are other accepted risk factors.

The prognosis is not good for patients with ruptured AAA before hospitalization. More than 50% of cases cannot reach the emergency department. Survival decreases by 1% every minute in these cases.

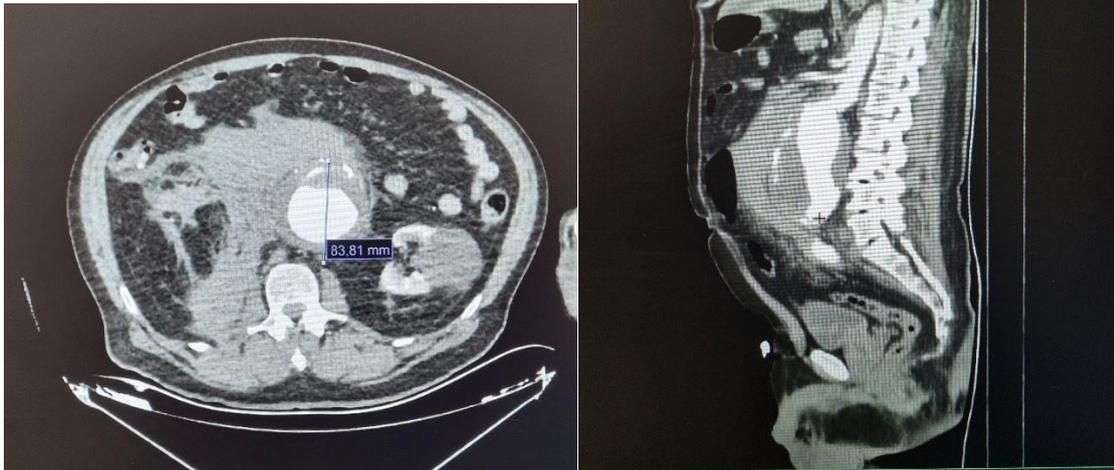
CASE REPORT:

A 73-year-old male patient came to the emergency department with a complaint of sudden onset of side pain radiating into his right leg. GCS:15. He was oriented and cooperative. Vital signs were stable. In the physical examination, there was no defense or rebound in the abdomen. He had right side pain. Ekg: was in sinus rhythm. He did not describe dysuria. There was a previous

history of renal colic. All of the patient's pulses were taken bilaterally. He had a known history of hypertension, benign prostatic hypertrophy, and upper gastrointestinal tract bleeding. Since the patient remained hypotensive during follow-up, contrast-enhanced abdominal CT imaging was performed.

In abdominal CT imaging; Aneurysmatic dilatation with a diameter of 10 cm was noted in the abdominal aorta at the infrarenal level. The active lumen diameter reaches 4 cm at its widest point. A retroperitoneal hematoma, measuring 18*10 cm at its widest point, was observed adjacent to the abdominal aorta. Additionally, a 16 mm diameter stone was observed in the posterior part of the bladder in the left half.

The patient was consulted with cardiovascular surgery with the diagnosis of abdominal aortic aneurysm rupture, and was admitted to the cardiovascular surgery intensive care unit for the operation.





DISCUSSION

Abdominal aortic aneurysms may present with different signs and symptoms that mimic other diagnoses; Syncope, flank, back or abdominal pain, gastrointestinal bleeding from aortoduodenal fistula, limb ischemia due to embolization of thrombus in the aneurysm, shock or sudden death may occur. Sudden death is most often caused by intraperitoneal rupture of the aneurysm. Syncope that develops after severe abdominal pain and back pain without any warning symptoms suggests visceral or abdominal aortic aneurysm rupture.

Differential diagnosis of abdominal aortic aneurysm includes the causes of syncope, abdominal pain, chest pain, back pain and shock. Cardiac, abdominal and retroperitoneal diseases, including renal, hepatobiliary and pancreatic diseases, should also be considered in the differential diagnosis. Unfortunately, some patients may be discharged from the emergency department with benign diagnoses such as musculoskeletal back pain or enteritis.

Abdominal aortic aneurysms rarely present as chronic rupture. Retroperitoneal rupture may cause sufficient fibrosis to limit blood loss. The inflammatory response often causes long-standing pain. Despite this serious pathology, the patient can appear remarkably well.

In our case, the patient presented with side pain and had a history of kidney stones. Although he could have been discharged from the emergency department considering renal colic, he was diagnosed with abdominal aortic aneurysm rupture due to clinical suspicion and was hospitalized to the cardiovascular surgery department.

Laboratory tests are not helpful in diagnosing AAA. However, it is important to perform a complete blood count to determine the need for transfusion due to bleeding. Liver and kidney function tests may be performed to detect organ ischemia.

Plain radiographs, USG and CT angiography and magnetic resonance (MR) imaging are imaging techniques for the diagnosis of AAA. Ballooning of the aortic walls can be detected in patients with severe calcific plaques on standing plain abdominal radiographs and lateral radiographs. USG has 90% sensitivity in detecting aneurysm. It is a disadvantage that adequate images cannot be obtained with USG due to retroperitoneal bleeding and intestinal gas. Anatomical details of the aneurysm and retroperitoneal bleeding can be detected with CT angiography. In our case, since he remained hypotensive during the emergency department follow-up, CT angiography was performed with the preliminary diagnosis of aortic dissection and AAA, and abdominal aortic aneurysm and retroperitoneal bleeding were detected. In our case, since he remained hypotensive during the emergency department follow-up, CT angiography was performed with the preliminary diagnosis of aortic dissection and AAA, abdominal aortic aneurysm and retroperitoneal bleeding were detected.

AAAs might become fatal in a short time if the diagnosis is missed. Especially in patients presenting with atypical symptoms, clinical suspicion and imaging methods become important in emergency departments to make a rapid diagnosis and guide treatment.

SOURCE:

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4421

TRAUMATIC PARAPLEGIA AFTER WORK ACCIDENT

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Abstract

Introduction and Purpose: Despite all the precautions and technological developments taken today, individuals are exposed to trauma due to various reasons. Trauma is the most common cause of death, especially in children and young people (between the ages of 1-44). Post-traumatic thoracic vertebra fractures are less common than fractures in other parts of the spine. This may be attributed to the fact that thoracic vertebrae are more resistant to trauma. Thoracic vertebra fractures are generally associated with high-energy trauma such as traffic accidents and falls from height.

Materials and Methods: A 32-year-old male patient was brought to the emergency room by ambulance with complaints of chest pain and inability to feel his legs after a concrete mixer fell on him. In the neurological examination of the patient, the patient was paraplegic. Computed brain tomography revealed displaced fracture and pneumocephalus in the left occipital region. A C1 vertebra fracture was detected on cervical vertebra tomography. Thorax and thoracic vertebra tomography revealed a T4 compression fracture, displaced rib fractures on the left, and minimal pneumothorax on the left. After the Thoracolumbar Injury and Severity Scoring (TLICS) decision was made, the patient's spinal cord was decompressed by performing T2-T3 total laminectomy.

Results and Conclusion: Thoracic vertebra fractures generally occur as a result of high-intensity trauma. The approach is made according to the anatomy of the fracture, the damage it causes to the surrounding tissues, and the results of the nerve sensory examination. In these patients, early intervention and decompression due to nerve damage are important for the patient's recovery in the future.

Keywords: Paraplegia, trauma, work accident

Introduction

Despite all the precautions and technological developments taken today, individuals are exposed to trauma due to various reasons. As a result, life long permanent disabilities and deaths may occur. Trauma is the most common cause of death, especially in children and young people (between the ages of 1-44) (1). Post-traumatic thoracic vertebra fractures are less common than fractures in other parts of the spine. This may be attributed to the fact that thoracic vertebrae are more resistant to trauma (2). Thoracic vertebra fractures are generally associated with high-energy trauma such as traffic accidents and falls from height. It has been observed that thoracic region fractures, although less frequent, are associated with more neurological injuries. There are more neurological injuries in thoracic vertebra fractures due to reason ssuch as the narrowness of the spinal canal in the thoracic region, the shorter distance between the spinal cord and bone parts, and the more limited blood flow of the spinal cord in this region (3).

Case

A 32-year-old male patient was brought to the emergency room by ambulance with complaints of chest pain and inability to feel his legs after a concrete mixer fell on him. The patient does not have any disease. The patient's vital signs were arterial blood pressure 172/78 mmHg, pulse 97/min, temperature 36.7 °C, and oxygen saturation 100%. The patient's fingertip spot blood sugar was 134 mg/dl. The patient was agitated and his general condition was moderate to poor, with a Glasgow coma scale (GCS) of 14. During head and neck examination, there was a skin and subcutaneous incision approximately 1x6 cm in size in the left occipital region. There was sensitivity at the C1-C2 vertebra in the cervical examination performed with a neck collar on. Pupillary isochoric, direct and indirect light reflexes +/+. Eye movements were normal and there was no facial asymmetry. There was bilateral lower extremity pain and temperature sensory loss. Upper extremity motor examination bilateral 5/5. Bilateral Upper extremity sensory examination 5/5. Bilateral lower extremity motor examination 1/5, Bilateral lower extremity sensory examination 2/5. There was bilateral lower extremity pain and temperature sensory loss. Total sensory and motor loss was detected below both breast levels. Urinary and fecal incontinence was not observed. There was severe sensitivity at the thoracic T4 level. There was tenderness at the level of the 5.-6. rib of the right hemithorax. By auscultation, bilateral lung sounds were equal. The abdomen was comfortable, there was no sensitivity, no defense, and no rebound. Peripheral pulses were equal and full. The patient was immediately administered IV isotonic and analgesic treatment and antibiotics. Tetathnosis vaccine was

given. In radiological imaging, displaced fracture and pneumocephalus were observed in the left occipital region on computerized brain tomography. (Figure-1). C1 vertebra fracture was detected on cervical vertebra tomography (Figure-2). Thorax and thoracic vertebra tomography revealed a T4 compression fracture, displaced rib fractures on the right, and minimal pneumothorax on the right (Figure-3). No acute traumatic pathology was observed on abdominal tomography. In thoracic vertebra MRI imaging, height losses in favor of multiple compression fractures were observed in the T3, T4, T5, T6, T7, T8 vertebral bodies. In addition, extension towards the spinal canal in the posterior element of the vertebral body due to compression at the T3-4 level, and anterior compression of the thecal sac and spinal cord at this level were detected (Figure-4). The patient was admitted to the intensive care unit with a loading treatment of 1000 mg of methylprednisolone administered over 2 hours. After the Thoracolumbar Injury and Severity Scoring (TLICS) (Table-1) decision was made, the patient's spinal cord was decompressed by performing T2-T3 total laminectomy. The patient, who received treatment for a long time after intensive care follow-ups, was discharged as a paraplegic with physical therapy recommendations. During follow-up examinations, it was observed that the patient's lower extremity motor power returned to level 3/5.

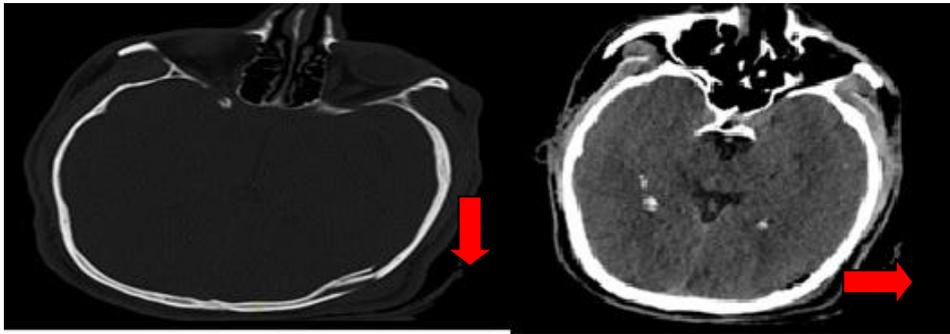


Figure-1: Fracture in the left occipital bone and pneumocephalus



Figure 2: C1 vertebra fracture

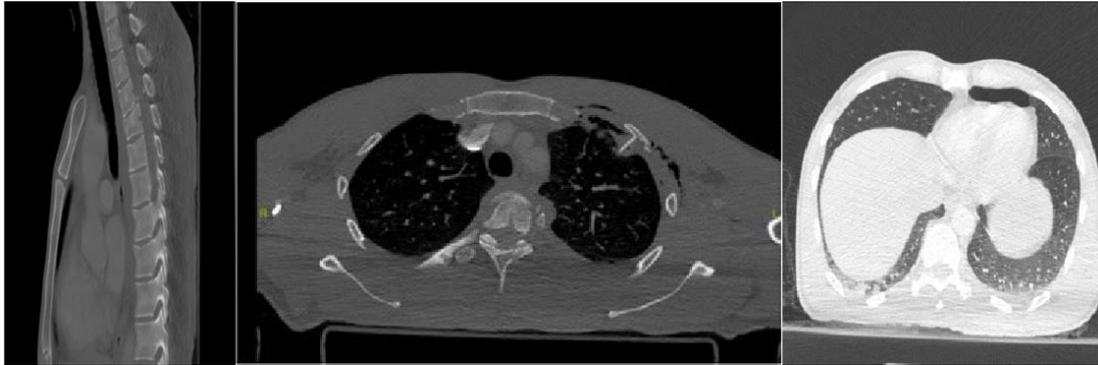


Figure-3: T4 vertebral fracture, rib fracture on the left and minimal pneumothorax



Figure-4: Thoracic MRI of medulla spinalis incision

Tablo-1: Thoraco-Lumbar Injury Classification and Severity Score (TLICS)

Thoraco-Lumbar Injury Classification and Severity Score (TLICS)				
1	Morphology Immediate stability	-Compression	1	-Radiographs
		-Burst	2	-CT
		-Translation/Rotation	3	
		-Distraction	4	
2	Integrity of PLC* Long term stability	-Intact	0	-MRI
		-Suspected	2	
		-Injured	3	

3	Neurological status	-Intact	0	-Physical examination
		-Nerve root	2	
		-Complete cord	2	
		-Incomplete cord	3	
		-Caudaequina	3	
Predicts		-Need for Surgery	0-3	-Nonsurgical
			4	-Surgeon's choice
			>4	-Surgical

Discussion

In 1980, with the use of computerized tomography (CT) in thoracic vertebra fractures, Denis divided the spine into three columns. Denis classification is based on the theory of three columns: anterior, middle and posterior column (4). According to this classification, injuries were observed in both the anterior and posterior columns in our patient. The Thoracolumbar Injury and Severity Score (TLICS) classification was defined by Vaccaro et al. in 2005. In this classification; Scoring is done by taking into account the morphological characteristics of the fracture, the integrity of the posterior ligaments and the neurological status of the patient. This score gives us the severity of the injury and treatment is planned accordingly (5). According to this scoring, our patient had a compression fracture, suspected injury to the posterior ligamentous complex integrity, and complete spinal cord damage, so the surgical option was deemed appropriate for our patient. In the treatment of thoracic fractures, in cases where instability is detected; Anterior, posterior or combined surgical interventions are performed. The aims of the applied surgical treatment are; These can be listed as providing neural decompression, restoring spinal ligament, ensuring fusion in the area of the fracture, and preventing deformity that may develop in the future (6). Today, most cases of thoracic trauma are successfully treated with posterior approaches, without the need for anterior intervention. Developments in posterior approaches have made many anterior approaches used in the past unnecessary. Especially with the developments in deformity surgery, decompression, stabilization and fusion, which could only be achieved with the anterior approach in the past, can also be easily achieved from the posterior (7). In our patient, the spinal cord was decompressed by performing T2-T3 total laminectomy with a posterior approach.

Conclusion

As a result, thoracic vertebra fractures generally occur as a result of high-intensity trauma. The approach is made according to the anatomy of the fracture, the damage it causes to the surrounding tissues, and the results of the nerve sensory examination. Depending on the nerve damage, early intervention and decompression is important for the patient's recovery in the future.

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4430

Orbital Mucormycosis

Cemil YILDIZ, Ekim SAĞLAM GÜRMEK

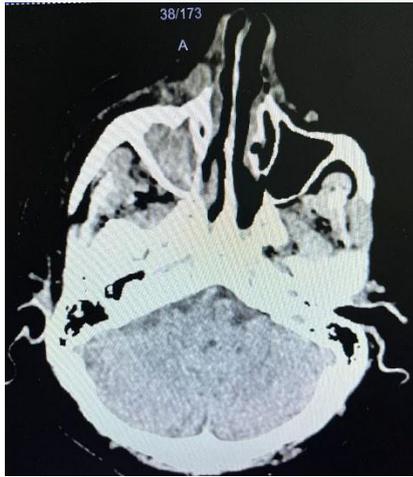
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Introduction and Purpose: Orbital cellulitis is an infection involving the orbit (fat and extraocular muscles). Orbital cellulitis can cause vision loss or even loss of life (1). Orbital cellulitis can usually be distinguished from preseptal cellulitis by clinical features (ophthalmoplegia, pain with eye movements and proptosis) and imaging studies (2). When the distinction is unclear, clinicians should treat patients as if they had orbital cellulitis. The most frequently identified pathogens in orbital cellulitis are *Staphylococcus aureus* and streptococci. (3) Although the most common cause of orbital cellulitis is bacteria, fungi, especially Mucorales (causing mucormycosis) and *Aspergillus* species, can cause life-threatening invasive orbital infections (3). Mucormycosis and invasive aspergillosis should be considered in patients with impaired host defenses (3). Mucormycosis primarily affects patients with diabetic ketoacidosis (3). *Aspergillus* infection of the orbit occurs in patients with severe neutropenia or other immunodeficiencies, including HIV infection (3). Hyperglycemia, often accompanied by metabolic acidosis, is the most common underlying condition. In this case report, orbital mucormycosis with central involvement is described.

Material and Methods: This case is a 56-year-old female patient diagnosed with Diabetes Mellitus with orbital mucormycosis infection. She applied to the emergency room with complaints of swelling, pain in her right eye, loss of balance and numbness in her left arm for 2-3 days. The orbital CT scan taken showed an appearance consistent with orbital cellulitis. Diffusion MRI showed diffusion restrictions compatible with acute ischemia in the internal and cortical border zones of the right cerebral hemisphere. On examination, the right pupil is fixedly dilated and eye movements are completely restricted in all directions on the right. There were signs of peripheral facial paralysis in the right half of the face. Meropenem, Vancomycin and

Amphotericin B was started empirically. The patient was admitted to the neurology intensive care unit. *Candida Glabrata* grew in the biopsy culture taken later.

Results and Conclusion: If orbital cellulitis is considered, especially in immunosuppressed patients (malignancy patients, diabetes mellitus patients, etc.) mucormycosis should also be considered. Antifungal therapy should be considered in addition to empirical antibiotic therapy in the emergency department.



Keywords: Periorbital Cellulitis, Orbital Cellulitis, Mucormycosis, Mucorales, Immunosuppressed

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4554

Our Approach to a Sternum Fracture in the Emergency Department

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Introduction:

Thoracic trauma accounts for approximately 25% of trauma-related deaths, and sternum fractures are observed in 3-8% of blunt thoracic traumas (1, 2). A fracture of the sternum occurs due to a direct blow to the sternum or disruption of the cortex due to a pathological process, and sternum fractures may be associated with cardiothoracic injuries (3).

In this case, we present a patient who presented to the emergency department after a fall from height and was admitted to the thoracic surgery service with a diagnosis of sternum fracture.

Case:

A 62-year-old male patient was brought to the emergency department after falling from a height of approximately two meters. The patient stated that he couldn't remember which part of his body he hit. On arrival, his Glasgow Coma Scale (GCS) was 15, and his vital signs were stable. No major injuries were detected on primary examination. On physical examination, minimal tenderness was noted along the anterior midline of the chest with lower back pain. Neurological examination was normal, and no sensory-motor deficits were detected. Thoracic computed tomography (CT) revealed a sternum fracture in the sagittal plane (Image). On secondary examination, tenderness was found upon palpation in the area corresponding to this region. No

traumatic pathology was detected in other imaging studies. The patient was monitored for cardiac injury due to isolated sternum fracture. There were no abnormalities detected in the patient's ECG and cardiac enzyme levels. The patient was admitted to the Thoracic Surgery Service for conservative management.

Discussion-Conclusion:

In the literature, it is reported that 83% of sternum fractures are related to traffic accidents, while 13% are due to falls (4). In one study, falls were reported as the most common cause, accounting for 58% of cases (5). In our case, the cause was also a fall from a height. Sternum fractures are more commonly seen in older individuals and females (2). However, our case involved a 62-year-old male patient. In many studies, sternum fractures are most commonly observed in the sternal body. One study reported that fractures were mostly non-displaced (3). In our case, the fracture was located in the sternal body and was non-displaced.

Patients with sternum fractures usually present with localized pain in the anterior chest wall that worsens with deep breathing (6). However, in our case, although there was pain in multiple body regions secondary to high-energy trauma, localized pain to the sternum was not described, and the diagnosis was made after imaging.

The diagnosis of sternum fractures is generally made using lateral chest X-rays (4). However, in patients with multiple traumas or those who cannot be placed in positions due to pain, computed tomography (CT) can be utilized for diagnosis. Additionally, possible cardiac injuries such as pericardial effusion and cardiac contusion can be identified with CT (2). In our case, CT was preferred as the imaging modality due to high-energy trauma.

The frequency of myocardial contusion following sternal fractures is reported to be 6-12% in the literature (7). The validity of electrocardiography (ECG) and cardiac enzyme measurements in investigating myocardial injuries has been established (8). Changes in ECG and cardiac

enzymes in patients with isolated sternum fractures appear in the first few hours and generally have a benign course (3). It is recommended to perform echocardiography for patients with abnormalities in cardiac enzyme levels. In our case, we investigated the patient for possible cardiac injury. No abnormalities were detected in the patient's ECG, and cardiac enzyme monitoring yielded normal results. Therefore, cardiology consultation for echocardiography was not deemed necessary.

One of the important factors determining morbidity in sternum fractures is the presence of accompanying traumatic pathologies such as pneumothorax, hemothorax, hemopneumothorax, and rib fractures (3). In our case, no such pathologies accompanying the sternum fracture or additional organ and systemic pathologies were detected.

The treatment approach for sternum fractures is classified as conservative and surgical. Indications for surgical treatment include excessive separation of fracture lines, presence of fractures leading to flail chest, and overlapping of fracture lines resulting in cosmetic deformities. Otherwise, a conservative approach is preferred. The prognosis for isolated sternum fractures is very good, with most patients fully recovering within a few weeks. The complication rate of isolated sternum fractures is reported to be 1-2%, with a mortality rate of 0.7% (3). In our case, conservative management was chosen due to a non-displaced fracture, and the patient was admitted for observation.

In conclusion, although sternum fractures have low morbidity and mortality rates, they should not be overlooked in patients with thoracic injuries. Patients with these injuries should undergo ECG and cardiac enzyme monitoring for cardiac injury, and echocardiography should be performed if necessary.

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Image. Corpus sterni fracture on the sagittal thorax CT scan.

4694

Investigation of the Changing Trends in Emergency Medicine Specialization Preferences in Medical Residency Choices for the Year 2023

INTRODUCTION:

In Turkey, physicians who acquire the title of "medical doctor" after a six-year medical education must succeed in the Medical Specialty Examination (TUS) to specialize. The significance of specialization training is paramount, as it directly contributes to the competence of specialist physicians in areas such as human health, disease diagnosis, and treatment outcomes¹.

The TUS was first conducted in 1987 and has been held regularly twice a year since then. The preferences of physicians for TUS have started to change, influenced by certain laws and practices implemented as part of the Health Transformation Project initiated in Turkey in 2003¹.

For approximately 20 years, specialized training in Emergency Medicine (EM) has been provided in Turkey. Unfortunately, despite being widely popular in the United States and featured in television series worldwide, EM Specialization has not attained the recognition it deserves in Turkey². Each year, the TUS placement results reveal significant vacancies in specialized training positions, with a considerable portion of these vacancies pertaining to Emergency Medicine specialization positions.

In our country, there are limited studies regarding the status of EM specialization in the TUS placement results.

Given the mentioned information, there arises a need to determine whether there is any change in the TUS quotas and scores specifically for EM and the direction of this change. This research aims to examine the EM TUS quotas and scores for the year 2023 and analyze changes over the period. Thus, we believe that contributing to the decisions of the emergency medicine community and physicians opting for emergency medicine will be facilitated.

MATERIALS AND METHODS:

To examine the variation in placement scores of the EM specialization over the years, numerical data from the results of the TUS related to EM were obtained from the official website of the Student Selection and Placement Center (Known as ÖSYM in Turkish - <https://www.osym.gov.tr/>). In this context, the placement results for the year 2023 were analyzed as data for the year 2023, considering both the TUS 1st term and TUS 2nd term results. The "Numerical Information Regarding Placement Results" and "Minimum and Maximum Scores in Placement Results" documents related to the two TUS exams held in 2023 were downloaded from the ÖSYM website, and research data were extracted and recorded in electronic format.

Institutions providing EM education were categorized as university hospitals, training and research hospitals, city hospitals, and military hospitals. For placements in these institutions, the minimum and maximum scores, as well as the fill rates of quotas, were recorded. The main outcome criterion for the research was the base scores. Additionally, the average placement score, calculated from the smallest and largest placement scores and the number of placed individuals, was recorded. Quotas for foreign national specialization students and additional placement results were excluded from the study.

The study did not obtain ethical committee approval, as it was conducted on data obtained from the official website of the Student Selection and Placement Center (Known as ÖSYM in Turkish - <https://www.osym.gov.tr/>).

ANALYSIS:

Microsoft Excel software and the online statistical calculation tool pvalue.io were utilized for the analyses. Results were presented using descriptive statistics (mean \pm standard deviation (SD) for numerical variables, n (%) for categorical variables), and independent samples t-test and chi-square test were employed. A significance level threshold of <0.05 was considered.

RESULTS:

In the 2023 TUS 1st term, the number of available positions was 12,703, the number of candidates was 8,466, the number of placed candidates was 7,744, and the number of unfilled positions was 723 (reference: ÖSYM website). In this period, a total of 733 positions were opened for the EM branch in the training programs of 110 institutions, and 99.6% of these positions (n=730) were chosen. Numeric data for the 2023 TUS 1st term are provided in Table 1.

In terms of placement, no significant difference was observed between University Hospitals and Training and Research Hospitals (TRH), University Hospitals and City Hospitals (CH), and TRH and CH (Sequentially, $p=0.93$, $p=0.95$, and $p=0.99$; Chi-square test). The distribution of placement status according to educational institutions is provided in Table 2.

Regarding the average base placement score, no significant difference was found between universities and TRH, universities and CH, and TRH and CH (Sequentially, $p=0.35$, $p=0.15$, and $p=0.45$; Independent samples t-test). The distribution of average lowest placement scores according to educational institutions is presented in Table 3.

The average base placement score did not show a significant difference between universities and TRH, universities and CH, and TRH and CH (Sequentially, $p=0.35$, $p=0.15$, and $p=0.45$; Independent samples t-test). The distribution of average highest placement scores according to educational institutions is provided in Table 4.

In the 2023 TUS 2nd term, a total of 948 positions were opened in the training programs of 113 institutions for the EM specialty. Of these, 67% (n=635) were chosen, and the vacancy rate for the positions was determined as 33%. The numerical information for the 2023 TUS 2nd period is provided in Table 5.

In terms of placement status, no significant difference was observed between universities and TRH ($p=0.55$; Chi-square test). However, a significant difference was found between universities and CH and between TRH and CH ($p<0.05$ for both comparisons; Chi-square test). The distribution of the placement status for the positions based on educational institutions is presented in Table 6.

The difference in the vacant quota status between the universities and TRH was not found to be significant ($p=0.40$; Chi-square test). However, a significant difference was observed between the university and CH, as well as between TRH and CH ($p<0.05$ for both comparisons; Chi-

square test). The distribution of vacant quota status according to educational institutions is presented in Table 7.

There is a significant difference in the average placement base scores between the universities and TRH and between CH and TRH ($p < 0.05$; Independent samples t-test). The distribution of the average lowest placement scores according to educational institutions is provided in Table 8.

There is a significant difference in the average placement ceiling scores between the universities and CH and between CH and TRH ($p < 0.05$; Independent samples t-test). The distribution of the average highest placement scores according to educational institutions is provided in Table 9.

In our study, the lowest and highest placement scores determined for each institution in both TUS 1st term and TUS 2nd term were also examined. According to this analysis, there was no significant difference in terms of institution-based lowest and highest scores ($p = 0.084$ and $p = 0.522$, respectively; Independent samples t-test). The institution-based minimum and maximum scores for the EM specialty according to the 2023 TUS placement results are presented in Graph 1.

In the 2023 TUS 1st term, out of 733 Acute Medicine specialization positions, only 3 remained vacant, while in the 2nd term, out of 948 positions, 315 were left unfilled. The institution-based vacant positions for the EM specialty according to the 2023 TUS placement results are illustrated in Graph 2.

In the 2023 TUS 1st term, the occupancy rate for Acute Medicine specialization positions was 99.6%, while in the 2nd term, this rate was determined to be 67%. The institution-based filled positions for the EM specialty according to the 2023 TUS placement results are presented in Graph 3.

DISCUSSION:

The EM specialty is inherently one of the challenging fields for physicians, and this is reflected in the ongoing TUS placement results. For many years, EM Departments have struggled to fill their positions, and a significant portion of the available positions has remained vacant. This lack of preference has been the subject of academic discussions, with an article exploring the reasons behind the unpopularity of the emergency medicine field. The study identified five main

reasons, including lack of recognition, violence, working conditions, intensity, and education. This research sheds light on the fact that even the interventions and efforts of emergency services and personnel, which save thousands of lives, have not increased the value attributed to emergency services. It highlights the alarming statistic that 70% of positions in the medical specialization exam remain unfilled².

World Health Organization (WHO) emphasizes that the achievement of a country's health goals is directly linked to the knowledge, skills, and motivation of its health workforce (HW). Therefore, the quantity and efficient organization of the health workforce play a pivotal role in determining the fate of a country in achieving its targeted health outcomes³.

According to the 2023 projection of the Ministry of Health, the estimated number of physicians needed in our country is 200,062, which corresponds to a physician-to-population ratio of 2.37 per 1000 people for the year 2023. In Turkey, the ratio of specialist physicians to general practitioners was 1.81 in the year 2017 (80,951 / 44,649). However, the projected ratio of needed specialist physicians to general practitioners for 2023 is estimated to be 9.63 (181,257 / 18,806)⁴.

In Turkey, physicians graduating from medical faculties face two options: either working as a general practitioner for a certain period within the framework of the mandatory government service (DHY) or taking the TUS to start specialization in a medical field. Following the DHY and specialization training processes, physicians continue to provide services within the Ministry of Health, private sector, or university settings⁵.

Since 1987, ÖSYM has conducted the TUS, an exam for placing students into the available positions in various medical specialties. Physicians make preferences for specialties based on the scores they achieve in this exam, and they are placed into their preferences according to the ranking. TUS is conducted twice a year, with the total number of available positions ranging from 3,000 to 4,500 per term. The number of applicants varies between 14,000 and 16,000^{6, 7}. Approximately half of the applicants make preferences. It's essential to note that TUS is not a proficiency exam but a ranking exam⁵.

The preferences for specialization areas based on TUS base scores have shown different trends over the years. A study examining preferences from 2007 to 2013 indicated that branches providing inpatient services, surgical services, and those frequently encountering patients were less preferred¹.

In another study analyzing TUS results before and after the Health Transformation Program, it was observed that physicians' preferences for specialization changed. This shift is believed to indicate potential challenges in the coming years regarding the health services provided to the public. The system has been observed to direct physicians from major surgical branches towards internal branches, more diagnostic branches, and even basic sciences. It was found that successful medical graduates tend not to prefer "high-risk" branches⁸.

EM Residency Training covers a 4-year period according to current regulations. Issues such as workload and violence in the current state of emergency services in our country negatively affect the attractiveness of this specialty. Physicians are not inclined to choose EM as their specialty training. Moreover, when EM is considered as a surgical branch, it aligns with the trend of surgical branches being less preferred in TUS results.

Our research revealed significant changes in the placement results for EM in the two TUS sessions in 2023. According to the results of TUS 1st term, almost all EM positions were preferred (99.6%). However, in the placement results of TUS 2nd term, it was observed that approximately one-third of the EM positions remained vacant (33%). In the 2023 TUS 1st term, 12,703 positions were opened, whereas in the previous term, the 2022 TUS 2nd term, 9,477 positions were opened. We believe that the 99.6% placement rate we observed in the 2023 TUS 1st term resulted from the increase in the number of opened positions. However, in the 2023 TUS 2nd term, despite more EM positions being opened compared to the 1st term, the fact that one-third of these positions remained. Excluding the almost 100% fill rate of Emergency Medicine positions in the 2023 TUS 1st term, the increase in the number of vacant positions in the 2nd term placement results suggests a continued decline in interest in emergency medicine, vacant suggests a return to the situation where EM is not a preferred specialty.

In a study, reasons such as "TUS score," "department's risk/malpractice ratio," and "working hours arrangement" have been suggested as influential factors in physicians' TUS specialty preferences⁵. We also believe that the fact that EM positions remain vacant is related to these factors. Furthermore, in the study conducted by Yapalak et al., EM was identified as one of the least preferred specialties⁵. The same study revealed that factors such as "likelihood of exposure to violence, department workload and stress, working hours arrangement, number of shifts, and intensity" were found to be influential in specialty preferences⁵. Unfortunately, EM encompasses all these negative factors.

Incidents of violence, believed to be on the rise in the healthcare sector, are among the factors negatively affecting work motivation⁹⁻¹¹. Intensive and long working hours can also be

indicators of burnout syndrome^{10, 12-14}. In the EM field, these negative factors are already present. Measures addressing these concerns can enhance workforce motivation in the healthcare sector, thereby increasing satisfaction with healthcare services and the job satisfaction of employees. Furthermore, regulations in these areas could elevate the EM specialty to a more desirable position.

Under the Mandatory Financial Liability Insurance for Medical Malpractice (ZMSS), specialties are divided into four risk groups based on the level of risk, with Group 1 being the lowest risk and Group 4 the highest¹⁵. In Group 4, there are specialties such as Emergency Medicine, Anesthesiology and Reanimation, Neurosurgery, General Surgery, Thoracic Surgery, Obstetrics and Gynecology, Cardiovascular Surgery, Orthopedics and Traumatology, and Plastic and Reconstructive Surgery¹⁷. As observed, EM is classified in Group 4. In a study, the lowest scores in TUS placement results were found in specialties belonging to Group 4⁸. In another study examining the base scores of 10 TUS exams conducted twice a year over a five-year period from 2009 to 2013, the base scores for Group 4 were significantly lower than those for other groups¹⁶.

The main reasons for physicians increasingly avoiding specialties in Group 4 include the recent rise in violence against healthcare professionals, which directs them towards non-clinical branches. Additionally, the higher risk of medical malpractice compared to other groups, resulting in an increasing number of lawsuits and higher awarded compensation amounts, might lead physicians to believe that their earnings are not proportionally increasing with the risks they face.

It is well-known that the most powerful factor influencing defensive medical practices is the fear of being sued⁴. While there is ongoing debate among physicians about the increasing prevalence of defensive medicine, this study reveals that this situation is even reflected in the preferences of prospective specialist physicians¹⁶.

In a study conducted by Budakoğlu and colleagues in 2011-2012 with final-year medical students, it was noted that the specialist fields previously more frequently preferred, such as Plastic and Reconstructive Surgery, General Surgery, Cardiovascular Surgery, and Pediatrics, are now being replaced by fields considered less risky in terms of the probability of medical errors, such as Dermatology, Psychiatry, and Radiology¹⁷.

In our study, excluding the situation where EM positions were almost 100% filled in the 2023 TUS 1st period, the increase in the number of vacant positions in the 2nd period placement results suggests that this decline in EM may continue. Although the TUS score and the

fill/vacancy rates of specialty positions may not have a direct correlation with qualified and good medical practice, they still indicate the priorities of prospective specialist physicians.

This study has limitations, including the inclusion of only the placement results of the two TUS periods in 2023. Examining the TUS placement results from previous years and comparing them with the results of our study could provide more information regarding Emergency Medicine preferences.

CONCLUSION:

This study's findings indicate a changing trend in physicians' preferences for the EM specialty throughout the year. While there were almost no vacant positions in the EM slots during the first period of the 2023 TUS, just one period later, in the TUS 2nd period, despite an increase in the number of EM positions compared to the first period (from 733 to 948), it is observed that one-third of these positions remained vacant (315 out of 948). Adjusting TUS quotas in line with changing conditions and implementing regulations such as improving physicians' rights and emergency service working conditions could help prevent potential disruptions.

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Tables and Graphs

Table 1. Numerical information for the 2023 TUS 1st term

	Number of Institutions	Quota	Placed in	Placed in %	Vacant quota	Vacant quota %	Number of empty programs	Average lowest score (SD)	Average highest score (SD)
University	70	396	396	100	0	0	0	49,8 (3,38)	55,7 (4,53)
TRH	28	210	208	99	2	1	2	50,5 (3,65)	56,8 (4,37)
CH	10	125	124	99,2	1	0,8	1	51,5 (1,57)	57,8 (4,91)
Military h.	2	2	2	100	0	0	0	47,7 (-)	47,7 (-)
TOTAL	110	733	730	99,6	3	0,4	3	50	56

* University: University Hospital, TRH: Training and Research Hospital, CH: City Hospital, Military h: Military Hospital, SD: Standart Deviation

Table 2. Distribution of quota placement status according to educational institutions

	Kontenjan	Yerleşen	p*
University	396	396	0,93
TRH	210	208	
	Kontenjan	Yerleşen	p*
University	396	396	0,95
CH	125	124	
	<i>Kontenjan</i>	<i>Yerleşen</i>	<i>p*</i>
TRH	210	208	0,99
CH	125	124	

* Chi-square test

University: University Hospital, TRH: Training and Research Hospital, CH: City Hospital.

Table 3. Distribution of average lowest placement scores by educational institutions

	University	TRH	p*
Average lowest placement score	49,8	50,5	0,35
	University	CH	p*
Average lowest placement score	49,8	51,5	0,15
	CH	TRH	p*
Average lowest placement score	51,5	50,5	0,45

* Independent samples t-test

University: University Hospital, TRH: Training and Research Hospital, CH: City Hospital.

Table 4. Distribution of average highest placement scores by educational institutions

		University	TRH	p*
Average placement score	highest	55,7	56,8	0,35

		University	CH	p*
Average placement score	highest	55,7	57,8	0,15

		CH	TRH	p*
Average placement score	highest	57,8	56,8	0,45

* Independent samples t-test

University: University Hospital, TRH: Training and Research Hospital, CH: City Hospital.

Table 5. Numerical information for the 2023 TUS 2nd term

	Number of Institutions	Quota	Placed in	Placed in %	Vacant quota	Vacant quota %	Number of empty programs	Average lowest score (SD)	Average highest score (SD)
University	71	477	298	62,5	178	37,3	4	48,0 (2,66)	54,5 (4,47)
TRH	31	284	165	58,1	119	41,9	3	46,7 (1,93)	55,6 (6,25)
CH	11	187	169	90,4	18	9,6	0	49,9 (3,99)	57,8 (4,16)
Military h.	0	0	0	0	0	0	0	---	---
TOTAL	113	948	635	67	313	33	7	47,9 (2,79)	55,4 (5,07)

* University: University Hospital, TRH: Training and Research Hospital, CH: City Hospital, Military h: Military Hospital, SD: Standart Deviation

Table 6. Distribution of quota placement status according to educational institutions

	Quota	Placed in	p*
Universtiy	477	298	0,55
TRH	284	165	
	Quota	Placed in	p*
Universtiy	477	298	<0,05
CH	187	169	
	Quota	Placed in	p*
TRH	284	165	<0,05
CH	187	169	

* Chi-square test

University: University Hospital, TRH: Training and Research Hospital, CH: City Hospital.

Table 7. Distribution of vacant quotas by educational institutions

	Quota	Vacant quota	p*
University	477	178	0,4
TRH	284	119	
	Quota	Vacant quota	p*
University	477	178	<0,05
CH	187	18	
	Quota	Vacant quota	p*
TRH	284	119	<0,05
CH	187	18	

* Chi-square test

University: University Hospital, TRH: Training and Research Hospital, CH: City Hospital.

Table 8. Distribution of average lowest placement scores by educational institutions

		University	TRH	p*
Average placement score	lowest	48	46,7	<0,05
		University	CH	p*
Average placement score	lowest	48	49,9	0,057
		CH	TRH	p*
Average placement score	lowest	49,9	46,7	<0,05

* Independent samples t-test

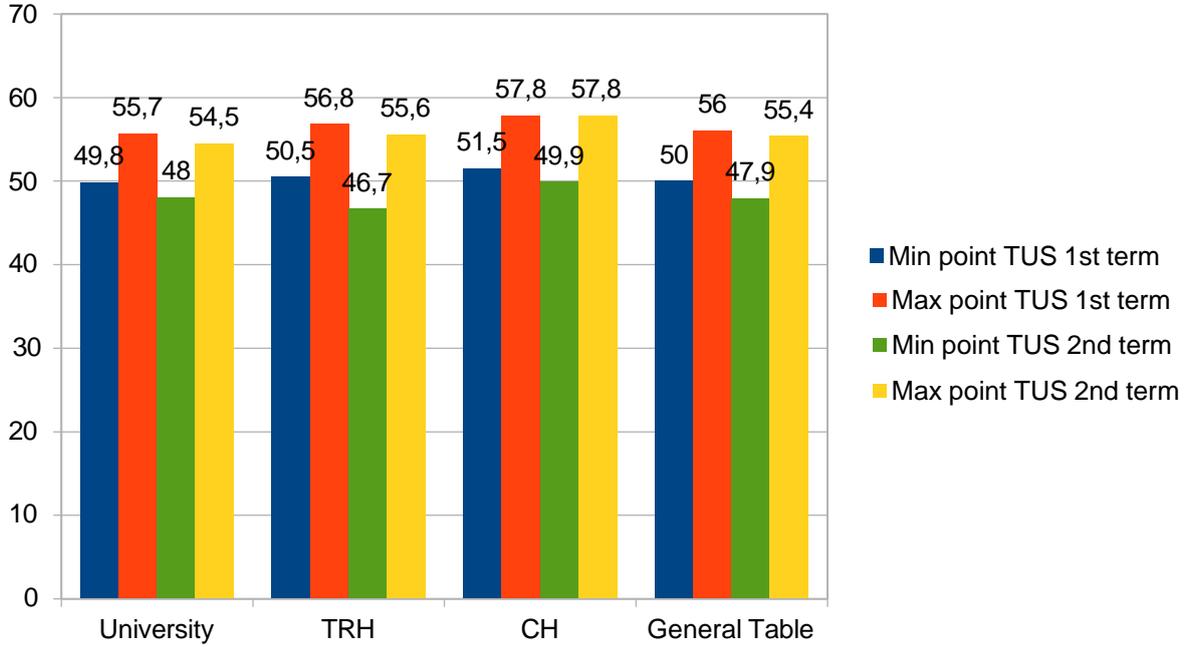
University: University Hospital, TRH: Training and Research Hospital, CH: City Hospital.

Table 9. Distribution of average highest placement scores by educational institutions

		University	TRH	p*
Average placement score	highest	54,5	55,6	0,06
		University	CH	p*
Average placement score	highest	54,5	57,8	<0,05
		CH	TRH	p*
Average placement score	highest	57,8	55,6	<0,05

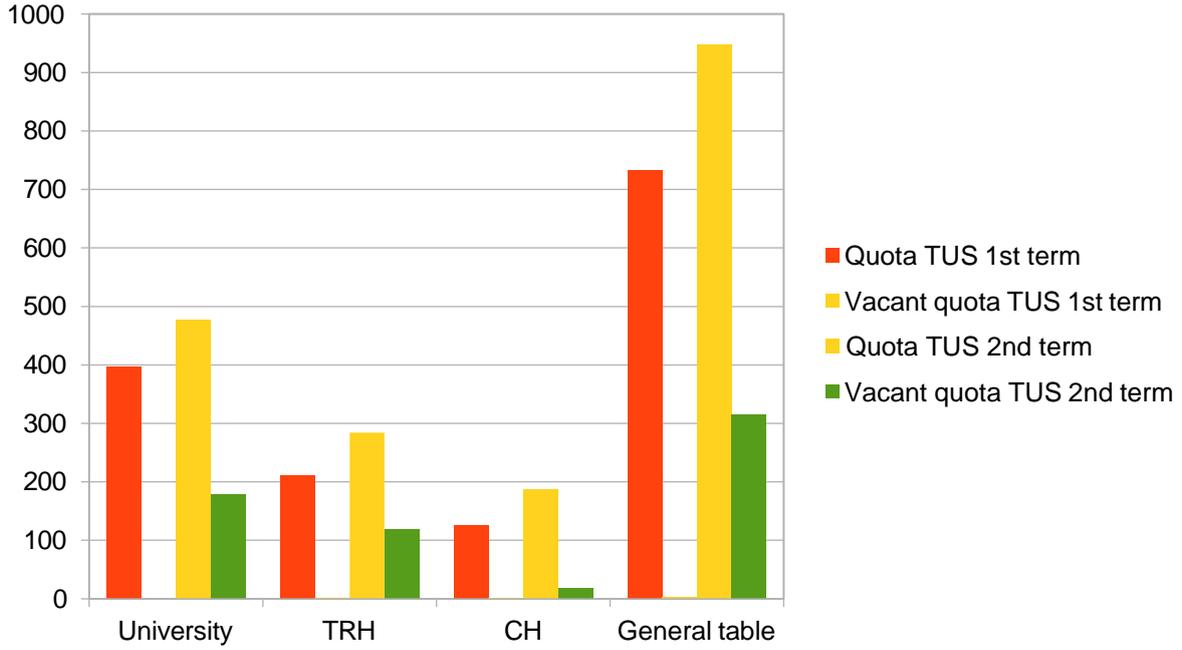
* Independent samples t-test

University: University Hospital, TRH: Training and Research Hospital, CH: City Hospital.

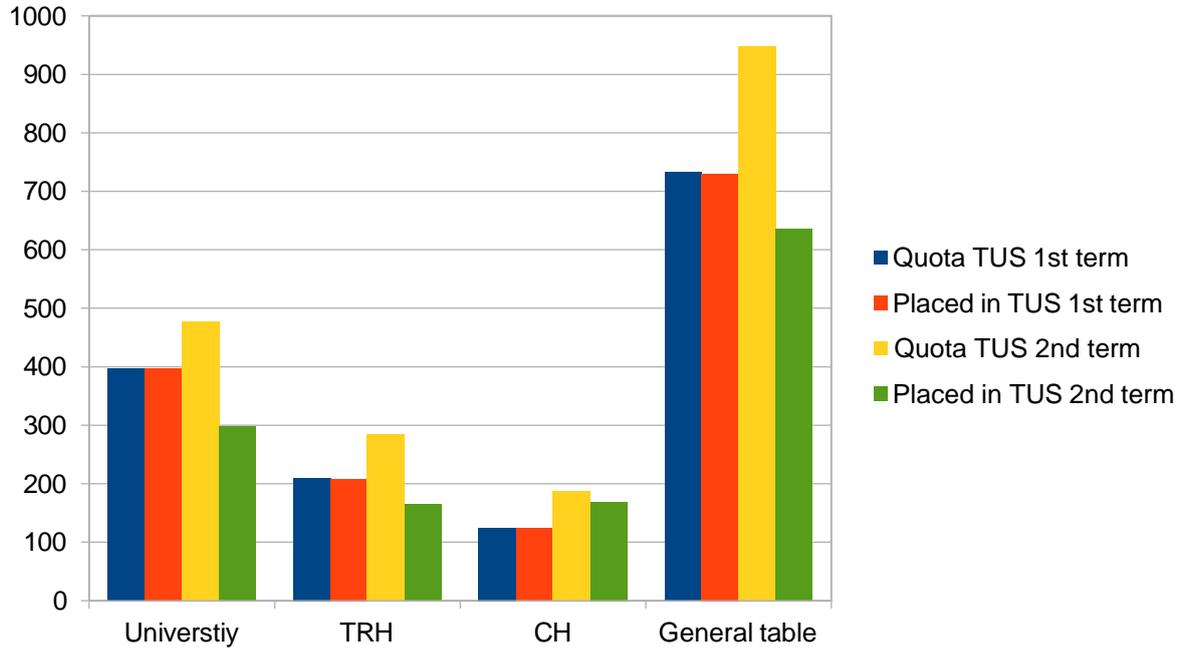


University: University Hospital, TRH: Training and Research Hospital, CH: City Hospital.

Graph 1. According to the 2023 TUS placement results, the lowest and highest scores of the Emergency Medicine branch on an institution basis.



University: University Hospital, TRH: Training and Research Hospital, CH: City Hospital.



Graph 2. According to 2023 TUS placement results, vacant Emergency Medicine branch positions on an institution basis

University: University Hospital, TRH: Training and Research Hospital, CH: City Hospital.

Graph 3. Emergency Medicine branch positions filled on an institution basis, according to 2023 TUS placement results.

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Midenin Sessiz Çılgılığı: Metabolik Alkaloz Ve Gizemli Kusma

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ÖZET

Giriş

Metabolik alkaloz, serum bikarbonat seviyesinin artmasıyla arteriyel kan pH'ının alkali aralığa yükselmesine neden olan bir asit-baz bozukluğudur. Mide içeriğinin aşırı kusulması, vücuttan hidrojen iyonlarının kaybına, dolayısıyla alkalozu yol açabilen ve metabolik alkaloz etiyojisinde yer alan bir diğer durumdur. Bu olgu sunumumuzda 1 aydır kusma şikâyeti ile acil başvurusu yapan, hipokloremik metabolik alkaloz ve akut börek yetmezliği nedeniyle etiyoloji araştırmak için hospitalize edilen ve takiplerinde pilor stenozu saptanan vakamızı tartışacağız.

Olgu

42 yaşında, bilinen ek hastalık öyküsü olmayan erkek hasta, kusma ve halsizlik şikâyetleri ile acil servisimize başvurdu. Son 6 ayda yaklaşık 20 kg kilo kaybı olduğu öğrenildi. Hastanın acil servisimize başvurusundaki vital değerlerinde; tansiyon arteryal: 90/60 mmHg, nabız: 130 atım/dakika, vücut ısısı: 36.6 °C, solunum sayısı:16/dakika ve oda havasında satürasyon: %97 olarak saptandı. Fizik muayenesinde; genel durumu orta- iyi, mukozaları kuru ve deri turgoru azalmış olarak görüldü. Hastanın dehidratasyon bulguları dışında patolojik muayene bulgusu görülmedi. Acil serviste başlanan tedaviyle genel durumu toparlayan hasta ileri tetkik ve tedavi amacıyla hospitalize edildi. Hastane yatış sürecinde gastroenteroloji tarafından yapılan endoskopik değerlendirmede preperotik antrumda darlık saptandı.

Tartışma

Metabolik alkalozun etiyojisi geniş bir yelpazede bulunabilir ve hastanın öyküsü, fizik muayene bulguları ve laboratuvar sonuçları bu durumun temel nedenini belirlemede kritiktir.

Etiyolojide, mide içeriğinin aşırı kusulması ve sıvı kaybı, madde kullanımı, mide ülserleri ve pilor stenozu gibi sindirim sistemi sorunları yer alır. Pilor stenozu, mide çıkışının daralmasıyla karakterize, kusma, besin intoleransı ve kilo kaybı gibi semptomlarla ortaya çıkan bir hastalıktır. Hastamızda da benzer semptomlar mevcuttu ve gastroenteroloji değerlendirmesi sonucunda pilor stenozu tanısı konuldu. Endoskopik değerlendirme sırasında prepilorik antrumda darlık ve ülserasyon saptanması, bu tanıyı destekledi.

Sonuç

Sonuç olarak, metabolik alkalozun nedenlerinin araştırılması ve doğru tanının konulması tedavinin başarısını etkileyebilir. Bu olgu, kusma şikâyeti ile başvuran hastalarda pilor stenozunun nadir görülen bir nedeni olduğunu vurgulamaktadır. Hastanın klinik durumu ve tanısal bulguları, etkili bir tedavi yaklaşımının belirlenmesinde önemlidir.

Anahtar Kelimeler: Hipokloremik metabolik alkaloz, pilor stenozu, asetazolamid

The Silent Scream Of The Stomach: Metabolic Alkalosis And The Mysterious Vomiting

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ABSTRACT

Introduction

Metabolic alkalosis is an acid-base disorder caused by an increase in serum bicarbonate levels, leading to elevation of arterial blood pH into the alkaline range. Excessive vomiting of gastric contents, resulting in the loss of hydrogen ions from the body, is another condition implicated in the etiology of metabolic alkalosis. In this case presentation, we will discuss a patient who presented to the emergency department with a one-month history of vomiting, leading to hypochloremic metabolic alkalosis and acute renal failure, necessitating hospitalization for

etiological investigation, and was subsequently diagnosed with pyloric stenosis during follow-up.

Case

A 42-year-old male patient with no known medical history presented to our emergency department with complaints of vomiting and weakness. It was revealed that he had lost approximately 20 kg in weight over the past 6 months. On arrival, his vital signs were recorded as follows: arterial blood pressure 90/60 mmHg, heart rate 130 beats per minute, body temperature 36.6°C, respiratory rate 16 breaths per minute, and oxygen saturation 97% on room air. Physical examination revealed the patient's general condition to be fair, with dry mucous membranes and decreased skin turgor observed, indicating signs of dehydration. Following initiation of treatment in the emergency department, the patient's overall condition improved, and he was admitted to the hospital for further investigation and management. During the hospitalization period, gastroenterology performed an endoscopic evaluation, revealing stenosis in the prepyloric antrum.

Discussion

The etiology of metabolic alkalosis can be diverse, and the patient's history, physical examination findings, and laboratory results are critical in determining the underlying cause. Etiological factors may include excessive vomiting and fluid loss, substance abuse, gastric ulcers, and pyloric stenosis, among other gastrointestinal issues. Pyloric stenosis is characterized by narrowing of the gastric outlet and presents with symptoms such as vomiting, food intolerance, and weight loss. Our patient exhibited similar symptoms, and following gastroenterology evaluation, a diagnosis of pyloric stenosis was established. The identification of stenosis and ulceration in the prepyloric antrum during endoscopic evaluation supported this diagnosis.

Conclusion

In conclusion, investigating the causes of metabolic alkalosis and establishing an accurate diagnosis can impact the success of treatment. This case highlights pyloric stenosis as a rare cause of vomiting complaints in patients. The clinical condition and diagnostic findings of the patient are crucial in determining an effective treatment approach.

Keywords: Hypochloremic metabolic alkalosis, pyloric stenosis, acetazolamide

GİRİŞ

Metabolik alkaloz, serum bikarbonat seviyesinin artmasıyla arteriyel kan pH'nın alkali aralığa yükselmesine neden olan bir asit-baz bozukluğudur. Yoğun bakım hastalarında sıkça görülen bu bozukluk, genellikle yoğun bakım ünitesine yatış sonrasında ortaya çıkar ve şok, asidemi, hacim fazlalığı gibi durumların tedavisi için yapılan agresif müdahalelerin bir sonucudur (1). Mide içeriğinin aşırı kusulması, vücuttan hidrojen iyonlarının kaybına, dolayısıyla alkalozu yol açabilen ve metabolik alkaloz etiolojisinde yer alan bir diğer durumdur. Bu durum, aşırı alkol tüketimi, madde kullanımı, mide ülserleri ve pilor stenozu gibi bazı sindirim sistemi sorunlarına bağlı görülebilmektedir.

Bu olgu sunumumuzda 1 aydır kusma şikâyeti ile acil başvurusu yapan, hipokloremik metabolik alkaloz ve akut börek yetmezliği nedeniyle etiyoloji araştırmak için hospitalize edilen ve takiplerinde pilor stenozu saptanan vakamızı tartışacağız.

OLGU

42 yaşında, bilinen ek hastalık öyküsü olmayan erkek hasta, kusma ve halsizlik şikayetleri ile acil servisimize başvurdu. Hastanın anamnezi detaylandırıldığında yaklaşık 6 aydır ara ara kustuğunu son 1 aydır kusma sıklığında artış olduğunu, sürekli sıcak hissettiğini, soğuk su içtikten sonra kustuğunu ve bunun gün içinde yaklaşık olarak 5-6 kez tekrarladığı öğrenildi. Son 6 ayda yaklaşık 20 kg kilo kaybı olduğu öğrenildi. Hastanın acil servisimize başvurusundaki vital değerlerinde; tansiyon arteryal: 90/60 mmHg, nabız: 130 atım/dakika, vücut ısısı: 36.6 °C, solunum sayısı:16/dakika ve oda havasında satürasyon: %97 olarak saptandı. Fizik muayenesinde; genel durumu orta-iyi, mukozaları kuru ve deri turgoru azalmış olarak görüldü. Hastanın dehidratasyon bulguları dışında patolojik muayene bulgusu görülmedi. Etiyoloji araştırmaya yönelik yapılan kan tetkiklerinde; kreatin: 1.79 mg/dL, üre: 90 mg/dL, serum sodyum: 132 mmol/L, serum potasyum: 2.67 mmol/L, serum klor: 63 mmol/L, pH: 7.51, bikarbonat (HCO₃): 52 mmol/L, parsiyel karbondioksit (pCO₂): 74 mmHg ve laktat: 2.3 mmol/L olarak saptandı.

Hipokloremik metabolik asidozu olan akut börek yetmezliği tablosundaki hastaya acil serviste sıvı resüsitasyonuna başlandı. Kristaloit infüzyonu ile birlikte potasyum klorür replasmanı yapılan hastanın tedavisine kilogram dozu hesaplanarak asetozolamid 1x 500 mg tablet eklendi. Hiperkarbi nedeniyle monitörize, solunum ve bilinç takibi yapılan hastanın acil serviste başlanan tedavisinin 8. saatinde tekrarlanan kan tetkiklerinde; kreatin:1.48 mg/dL, üre: 86 mg/dL, serum sodyum: 133 mmol/L, serum potasyum: 2.6 mmol/L, serum klor: 66 mmol/L, pH: 7.56, bikarbonat (HCO₃): 42 mmol/L, parsiyel karbondioksit (pCO₂):48 mmHg ve laktat: 1.2 mmol/L olarak saptandı.

Acil serviste başlanan tedaviyle genel durumu toparlayan hasta ileri tetkik ve tedavi amacıyla hospitalize edildi. Hastane yatış sürecinde gastroenteroloji tarafından yapılan endoskopik değerlendirmede preplerotik antrumda darlık ve 2 adet yaklaşık boyutları 5-7 mm ülser alan saptandı. Malignite şüphesi nedeniyle yapılan biyopsi örneklemesinde malignite lehine bulgu görülmeyip, yaygın ülserasyon ve iltihabi granülasyon dokusu oluşumu izlendi. Takiplerinde genel durumu ve laboratuvar parametreleri düzelen şikayetleri tamamen sonlanan ve oral alımı tolere edebilen hastaya proton pompa inhibitörü reçete edilerek, ayaktan takibi için taburcu edildi.



Şekil 4. Prepilorik antrumda darlık

TARTIŞMA

Bu olgu sunumunda, metabolik alkaloz ve akut böbrek yetmezliği nedeniyle acil servise başvuran ve pilor stenozu tanısı konulan bir hastayı ele aldık. Metabolik alkalozun tanısı ve

tedavisi karmaşık olabilir. Metabolik alkaloz, serum bikarbonat seviyesinin artmasıyla arteriyel kan pH'nın alkali aralığa yükselmesine neden olan bir asit-baz bozukluğudur. Bu durum, birincil asit-baz bozukluklarından biridir ve yoğun bakım hastalarında sıkça karşılaşılır.

Metabolik alkalozun etiyojisi geniş bir yelpazede bulunabilir ve hastanın öyküsü, fizik muayene bulguları ve laboratuvar sonuçları bu durumun temel nedenini belirlemede kritiktir.

Etiyojide, mide içeriğinin aşırı kusulması ve sıvı kaybı, madde kullanımı, mide ülserleri ve pilor stenozu gibi sindirim sistemi sorunları yer alır.

Pilor stenozu, mide çıkışının daralmasıyla karakterize, kusma, besin intoleransı ve kilo kaybı gibi semptomlarla ortaya çıkan bir hastalıktır (2). Hastamızda da benzer semptomlar mevcuttu ve gastroenteroloji değerlendirmesi sonucunda pilor stenozu tanısı konuldu. Endoskopik değerlendirme sırasında prepilorik antrumda darlık ve ülserasyon saptanması, bu tanıyı destekledi.

Tedavi yaklaşımı, hastanın genel durumunu iyileştirmeyi ve komplikasyonları önlemeyi amaçlar. Hastanın sıvı ve elektrolit dengesinin düzeltilmesi, asetazolamid gibi ilaçların kullanılması ve gerekirse cerrahi müdahale gibi tedaviler bu süreçte önemli rol oynar (3,4). Asetazolamid, proksimal renal tübüldeki karbonik anhidraz enzimlerini inhibe ederek, bikarbonat ve sodyumun atılımını sağlayarak serum klorür konsantrasyonunu korur (4,5) Bu ilaç, yetişkin hastalarda metabolik alkalozun tedavisinde etkili bir şekilde kullanıldığına dair çok sayıda çalışma mevcuttur (4,6,7).

Hastamızın akut böbrek yetmezliği ve hipokloremik metabolik alkalozuna yönelik erken dönemde kristaloid, elektrolit ve asetazolamid tedavisi başlanarak takiplerinde genel durumunda ve tekrarlanan kan tetkiklerindeki düzelmenin gözlenmesi ile tedaviye başarılı bir yanıt alındığı görülmüştür.

SONUÇ

Sonuç olarak, metabolik alkalozun nedenlerinin araştırılması ve doğru tanının konulması tedavinin başarısını etkileyebilir. Bu olgu, kusma şikâyeti ile başvuran hastalarda pilor stenozunun nadir görülen bir nedeni olduğunu vurgulamaktadır. Hastanın klinik durumu ve tanısal bulguları, etkili bir tedavi yaklaşımının belirlenmesinde önemlidir. Ayrıca, multidisipliner bir yaklaşım benimsenmesi ve hastanın takibi de tedavi sürecinde kritik öneme sahiptir.

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Introduction

The demographic shift towards an aging population presents an increasingly formidable challenge, necessitating vigilant oversight and evaluation of their pharmacotherapy. Elderly individuals often encounter a dearth of comprehensive or precise information regarding their medical conditions and prescribed treatments, highlighting the critical need for enhanced communication and tailored educational initiatives within healthcare settings.¹ A homophone, a fundamental linguistic concept, denotes words that share similar phonetic attributes while harboring distinct semantic or orthographic characteristics. Despite their phonetic resemblance, homophones maintain discrete lexical definitions and may occupy disparate syntactic roles. For instance, "flower" and "flour" represent quintessential homophones, wherein their phonetic congruence belies their semantic divergence: "flower" connotes a botanical bloom or blossom, whereas "flour" denotes a finely ground substance integral to culinary applications.²

Within healthcare environments, medication errors arising from phonetic confusions in drug nomenclature present formidable obstacles. Of particular concern are the potential hazards engendered by phonetic ambiguities in Turkish medication terminology, which hold the propensity to precipitate significant lapses in medication administration within this susceptible demographic.

In response to these challenges, it is imperative to explore pragmatic strategies and targeted interventions aimed at mitigating the risks associated with medication errors among elderly populations. This paper aims to contribute to this imperative by presenting a compelling case study featuring a 68-year-old male who, devoid of any clinical indication for anticoagulation therapy, presented to our Emergency Department subsequent to an acute ingestion of warfarin. Through a meticulous analysis of this clinical vignette, we endeavor to elucidate the intricate nuances surrounding medication management in geriatric patients, thereby advocating for the implementation of robust safety protocols to safeguard patient well-being.

Case

The 68-year-old male patient presents with a three-day history of oral bleeding accompanied by abdominal discomfort, which he attributes to gastritis. He denies concurrent

symptoms of diarrhea or vomiting and notes no discernible alterations in stool characteristics. Upon examination, vital signs indicate a blood pressure of 160/87 mmHg, a body temperature of 36.3°C, a heart rate of 74 beats per minute, a respiratory rate of 14 breaths per minute, and a blood oxygen saturation (sPO₂) of 97%. Past medical history reveals a diagnosis of coronary artery disease, hypertension, and gastritis, necessitating ongoing pharmacotherapy. However, the patient's current medication list is unavailable, yet he mentions prior use of 40 mg Famotidine (brand name Famodin[®]), 100 mg Metoprolol succinate (brand name Saneloc[®]), and 100 mg acetylsalicylic acid (brand name Coraspin[®]).

The oropharyngeal examination reveals bleeding sites suggestive of gingival origin, while thoracic and abdominal examinations yield no notable findings. Rectal examination demonstrates normal feces. Laboratory analysis reveals a hemoglobin level of 12 g/dL, a white blood cell count of 8.8x10³/uL, and a platelet count of 245x10³/uL, alongside unremarkable renal and hepatic profiles, electrolyte levels, and an international normalized ratio (INR) of 21.3. Upon further inquiry, the patient confessed to substituting his prescribed medication with a phonetically similar one from his spouse's supply due to the depletion of Famodin[®] over the preceding week. Subsequent investigation into the wife's medication regimen revealed her prescription of warfarin, branded as Coumadin[®], for the management of atrial fibrillation and stroke prevention. It became evident that the patient inadvertently ingested his wife's medication, Coumadin[®], instead of his prescribed Famodin[®].

The patient underwent management according to the warfarin overdose protocol, wherein intravenous vitamin K at a dose of 10 mg was administered initially, followed by the administration of Prothrombin Complex Concentrate (Cofact[®]) at a volume of 60 ml. The patient's INR levels were monitored, revealing a value of 1.5 at the 3rd hour and 1.4 at the 6th hour. Additionally, the patient's hemoglobin level, assessed at the 6th hour, was recorded as 11.6 g/dL. Following the resolution of active bleeding symptoms and the absence of further decline in hemoglobin levels, the patient, who attained the target INR level during their stay in the Emergency Department, was discharged with personalized recommendations. Therapeutic adjustments were implemented accordingly.

Discussion

Medication misuse is a significant concern, notably among two vulnerable populations: the elderly and preschool children. This misuse encompasses various errors, such as incorrect

dosages, missed doses, medication mixing, and off-label use.³ Among the elderly, several factors contribute to medication errors, including polypharmacy, complex treatment regimens, limited awareness of medication schedules, cognitive and physical decline, reduced social acuity, and negative attitudes toward pharmacotherapy.⁴ Our analysis suggests that off-label drug use in advanced age is associated with declines in both social and cognitive faculties.

Medication errors due to phonetic confusions in drug names pose significant challenges in healthcare settings. Studies have shown that similarities in the pronunciation of medication names can lead to administration errors, resulting in adverse patient outcomes. For example, in a study conducted by Hoffman et al., it was found that phonetic similarities between the drugs Celebrex (celecoxib), Cerebyx (fosphenytoin), and Celexa (citalopram) led to medication errors in clinical practice, highlighting the importance of distinct drug nomenclature.⁵ Similarly, a study by Gentin demonstrated that medications with similar-sounding names, such as Zantac (ranitidine) and Xanax (alprazolam), were frequently confused by healthcare professionals, underscoring the need for heightened awareness and vigilance.⁶

Errors in medication names that look alike or sound alike (LASA) pose a significant risk as they can be mistaken for each other, leading to potential harm to patients. For instance, medications like mercaptamine and mercaptopurine share similarities in their names, increasing the likelihood of confusion. LASA errors often occur due to shared linguistic properties between medication names, such as phonetic or orthographic similarities. Moreover, factors like similar packaging, tablet appearance, strength, route of administration, or therapeutic indication further compound the risk of errors. Healthcare providers may inadvertently contribute to these errors through miscommunication or misinterpretation of drug names with similar phonetic characteristics. To address this issue, strategies like the use of Tall Man lettering have been proposed. This method involves capitalizing specific letters in drug names to emphasize their differences, thereby helping to mitigate medication errors related to phonetic confusions.⁷

An imperative underscored, particularly in a prior investigation, is the necessity for vigilant monitoring of medication usage among elderly patients. Challenges in adhering to prescribed medication regimens were elucidated among elderly individuals post-hospital discharge.⁸ As exemplified in the patient history within our study, the adoption and augmentation of an electronic prescription framework, particularly tailored for individuals with compromised mental and social capabilities, are indispensable. Such systems should be readily

accessible to healthcare providers through comprehensive databases to address the multifaceted health concerns associated with medication use among the elderly.⁹ Moreover, the prioritization of training for personnel involved in elderly care is paramount for the effective regulation of medication utilization among this demographic. Local authorities and healthcare administrators bear additional responsibilities in fostering an environment conducive to the safe and appropriate administration of medications in elderly patients.¹⁰

In conclusion, proactive measures are urgently needed to address medication misuse among vulnerable populations, particularly the elderly. Implementing comprehensive strategies, such as electronic prescription systems and targeted personnel training, is crucial to mitigate the risks associated with medication errors in this demographic. Additionally, collaborative efforts involving healthcare stakeholders and policymakers are imperative to ensure the safe and effective delivery of pharmacotherapy to elderly patients while minimizing the occurrence of medication errors. Furthermore, phonetic confusions in drug names present a significant challenge in medication safety, especially among the elderly population. Healthcare providers must remain vigilant and adopt strategies to reduce the risk of medication errors stemming from phonetic similarities in drug names. Collaborative efforts between healthcare professionals, medication safety organizations, and regulatory agencies are essential to effectively address this issue and improve patient outcomes.

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DEMOGRAPHIC CHARACTERISTICS OF PATIENTS ADMITTING TO A THIRD STAGE HOSPITAL EMERGENCY DEPARTMENT AND EVALUATION OF EMERGENCY DEPARTMENT CLINICAL SERVICES: A FIVE-YEAR ANALYSIS

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INTRODUCTION

Emergency services are intended to use resources in the care of critically ill and injured patients, and the high patient density and applications to emergency services cause resources to be allocated to those who do not actually need emergency care. In addition to all these, this situation causes patients to wait longer in the emergency department, disruptions in the diagnosis and treatment of patients with more serious health conditions, decreased service quality and patient satisfaction, security-related problems and decreased productivity of employees.

The aim of this study is to evaluate the demographic characteristics and clinical services provided to all adult patients and pediatric trauma patients who applied to Selçuk University Faculty of Medicine (SÜTF) Emergency Department between 1 May 2010 and 31 May 2015; To contribute to the forward planning of emergency services and thus to provide faster, more effective and more efficient emergency health services.

MATERIAL-METHOD

The total number of patients admitted to SÜTF Hospital between 01.05.2010 and 31.05.2015, when the research was conducted, was determined as 2,145,147. A total of 381,063 patients were admitted to the Emergency Department, including pediatric trauma patients in the 0-17 age group and adult patients over 18 years of age. According to the information received from the hospital, demographic characteristics (age and gender distribution, distribution of patients

by age groups), triage categories, triage categories by age groups, gender and triage categories, application days and hours, average length of stay in the emergency department, average length of stay by triage categories. , the results of the patients, hospitalizations from the emergency department, and the distribution of their diagnoses according to the ICD-10 diagnosis coding system were examined respectively.

RESULTS

The number of patients applying to SUTF Emergency Service was 19,491 in 2010; 59,668 in 2011; 76,148 in 2012; 83,881 in 2013 and 94,736 in 2014; It was determined as 47,139 in the first five months of 2015; As of the end of 2015, this number was determined to be 109,264 applications(Figure 1).

When the application rates are examined; 194,448 (51.03%) of the patients who applied to the emergency department were male (average age 34.18 ± 20.15) (Min: 0, Max: 117); 186,615 (48.97%) were women (average age 33.17 ± 22.74) (Min:0, Max:116).

When the triage categories of patients applying to the emergency department are evaluated according to their arrival time; In the very urgent patient group, the most applied time period is between 19:00 and 23:00; Similarly, in the emergency patient group, it was observed that the most applications were between 19:00 and 23:00. In the non-urgent patient group, most applications were made between 18:00 and 22:00. It was determined that while there were the least applications during the night period between 23:00-08:00, the number of applications increased after 08:00-09:00.

When the relationship between triage categories and age groups was compared, a deterioration in the triage category was observed as the age increased. This relationship was found to be statistically significant (Chi-square=803; $p < 0.001$). When the triage categories according to the gender of the patients were examined, the proportion of patients designated as triage 1, 2 and 3 in male patients was 63.69%, respectively; These rates are 54.56% and 49.37% for women and 36.31% respectively; It was 45.44% and 50.63%. When examining the triage categories according to gender between two different groups, it was observed that male patient applications were more common in Triage 1 and 2 (Chi-square=167; $p < 0.01$).

When triage categories of patients applying to the Emergency Department are evaluated according to months; Very urgent applications are made mostly in September (n:114); The fewest applications were made in May (n:64). In the emergency patient group, the highest number of applications was in April (n: 14573); The fewest applications were made in June (n:6428). In the non-urgent patient group, the highest number of applications was in March (n: 26,974); The fewest applications were made in August (n: 13,934). The average length of stay of patients in the emergency department was calculated as 262 minutes. When the relationship between triage categories and average length of stay is examined, the average length of stay is 203.1 minutes in patients with Triage 1; It was found to be 314.4 minutes in patients with triage 2 and 269.1 minutes in patients with triage 3. When the average length of stay was examined according to triage categories, it was seen that each group was statistically different from the other (ANOVA test; Post Hoc Test-Tukey HSP was used for pairwise comparison of groups). The average length of stay of urgent patients was significantly higher than the average length of stay of very urgent and non-urgent patients. The average length of stay of non-emergency patients was significantly higher than the average length of stay of very urgent patients ($p<0.05$).

The departments with the highest number of hospitalizations from the emergency department are the Orthopedics and Traumatology Service, with 5018 (20.47%) patients in the first three departments, respectively; 2811 (11.47%) patients in Cardiology Service (Cardiology Intensive Care: 373, Cardiology Service: 2468); 2505 (10.22%) patients were in the General Surgery Service (General Surgery Intensive Care: 146, General Surgery Service: 2359). The departments with the least hospitalizations from the emergency department were the Pediatric Emergency Service (7), the Physical Therapy and Rehabilitation Service (33) and the Dermatology Service (33).

A total of 51,417 consultations were requested from other departments for patients applying to the Emergency Department during the period of the study. According to the data obtained from the hospital database, when looking at the completion times of these consultations, the department that completes them the fastest is; While it is a Physical Therapy and Rehabilitation clinic; The departments that completed it in the latest time were the Pediatric Surgery Clinic, Orthopedics and Traumatology Clinic and Cardiology Clinic. When we look at the reasons for the delay, the relevant clinics request additional examination and imaging methods for the patients after the initial evaluation, the insufficiency and/or decrease in the number of assistant

physicians working in these departments, some departments working on a call-on basis and delayed arrival to the emergency department due to patient density or the patient's After evaluation, it was determined that there were reasons such as not closing computerized consultations from the system.

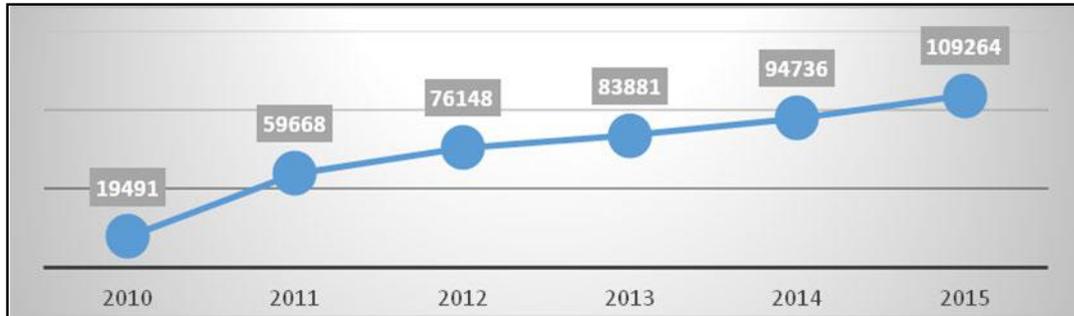


Figure 1. The number of patients applying to SUTF Emergency Service

DISCUSSION

The basic expectations of patients who apply to the emergency department are to receive fast and qualified service and to have their health problems resolved as soon as possible. In our study, the average length of stay of patients in the emergency department was found to be 262.2 minutes. In the study of Oktay et al., the average length of stay in the emergency department was found to be 3.3 hours (3). According to CDC data in the USA, the average length of stay is 3.2 hours (4). In another study, the average length of stay was found to be 241 minutes (5). In the USA, the problem of hospitalization has been shown as the most important reason for this length of time.

However, considering that the number of applications to the emergency department is increasing, it is likely that more trained personnel and a larger area will be needed to maintain the current patient flow rate. In current studies, it has been stated that reducing the density of the emergency department can be achieved by increasing the number of applications to primary care units, educating patients and reducing the workload, by increasing the number of nurses, staff and physicians working in the emergency department, and by increasing the number of intensive care and ward beds in the hospital (6).

In light of these data, the number of consultation requests is associated with patient diversity. Emergency services are units where patient flow must be rapid. In order for the consultations to be completed as soon as possible, additional tests and requests should be requested based on

the results and the patient should be admitted to the relevant departments quickly. Disruption of consultations and delays in additional tests and requests may cause crowding in the emergency department and cause patients and ambulances to turn away from the emergency room door (7,8).

Due to the nature of emergency services, the patient population and diversity vary in many centers, and data such as the number of consultations, hospitalization and referral rates may vary.

CONCLUSION

With the development of emergency medicine in Turkey and around the world, computer-supported national databases should be established for patient information in all emergency departments and these databases should be easily analyzable. Thanks to complete records, collected data can be analyzed and published, improving the quality of emergency medical services. In order to provide quality and effective emergency health services, emergency medicine models should be evaluated considering their suitability for the society and the training status of the personnel should be reviewed. This will be possible by analyzing the data obtained and evaluating the results. Annual data should be taken into account when creating personnel in emergency departments, and the staff characteristics of specialist physicians, research assistants, general practitioners, nurses and health officers, paramedics, emergency medical technicians, medical secretaries and caregivers should be reviewed in terms of health. Crowded at certain hours. Necessary arrangements must be made for the working efficiency and comfort of these personnel, for whom 24-hour service is essential. Patients should not have to wait for a long time and ideas should be generated to solve their problems. Knowing the characteristics of patients applying to emergency departments is extremely important for the quality of the service to be provided. In order to reduce inappropriate practices, patients must be educated and made aware of the urgency of medical situations, primary health care services must be provided effectively, personnel must be trained, emergency services must be designed to work efficiently, and they must be established correctly and effectively.

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Introduction

Kinesio tape is a therapeutic approach employing elastic treatment tape, extensively utilized in the management of sports injuries and various musculoskeletal conditions. Diverging from conventional treatment modalities, this clinical practice is characterized by its focus on four principal effects. Primarily, it endeavors to restore normal muscle function, thereby facilitating the restoration of regular mobility in patients. Furthermore, it exerts a mitigating influence on tissue edema and inflammation by augmenting lymphatic and vascular circulation. This method is tailored towards alleviating pain and rectifying potential joint dysfunctions (1, 2).

The Kinesio taping technique boasts a broad application spectrum, particularly within the domain of sports injuries. This therapeutic modality is meticulously crafted to furnish robust support for musculoskeletal pathologies (3). Recognized as a pivotal constituent of multidisciplinary rehabilitation regimens, Kinesio taping plays a vital role in enhancing athletic performance, expediting post-injury recuperation, and mitigating movement constraints.

Shoulder joint dislocations, specifically glenohumeral dislocations, occupy a prominent position among the most common joint dislocations observed in the human body. Primarily anterior in presentation, accounting for approximately 95% of cases, these dislocations typically occur when the arm is abducted and externally rotated, causing the humeral head to exert pressure on the anterior capsule and labrum, thus resulting in glenoid displacement. Particularly noteworthy is the recurrence phenomenon, especially prevalent in young athletes, where the rate of subsequent shoulder dislocations following the initial event can escalate to as high as 90%.

Urgent reduction stands as a critical intervention for shoulder dislocations, with various reduction methods at the clinician's disposal. Among these methods, the Cunningham technique distinguishes itself for its versatility, particularly in emergency room settings, and its focus on patient comfort (4). Subsequent to the reduction procedure, a conservative treatment protocol is instituted. This entails immobilization of the affected arm in a shoulder sling to curtail movement, alongside strategies aimed at reducing edema and alleviating pain, typically involving the administration of nonsteroidal anti-inflammatory drugs. This holistic treatment regimen serves as a robust approach towards mitigating potential complications arising from shoulder dislocations.

This case report elucidates the efficacy and implications of incorporating Kinesio Taping as a supplementary therapeutic intervention in the comprehensive management of a patient post shoulder dislocation reduction. Shoulder dislocations pose significant challenges in rehabilitation, necessitating multifaceted approaches for optimal recovery. Following the reduction procedure, the patient's rehabilitation journey encompasses not only immediate stabilization but also long-term functional restoration. Kinesio Taping emerges as a promising adjunct in this continuum of care, leveraging its purported benefits in enhancing proprioception, promoting neuromuscular re-education, and providing mechanical support to the affected joint. By exploring the nuanced effects and potential outcomes of Kinesio Taping within the context of shoulder dislocation rehabilitation, this case report contributes to the growing body of evidence informing clinical decision-making and optimizing patient outcomes in musculoskeletal care.

Case Report

A 29-year-old male patient presented to the emergency department with sudden onset shoulder pain while lifting his left arm above his head. The patient's vital signs were stable, and it was determined that he had experienced two previous shoulder dislocations in the same shoulder. His current pain resembled that of his previous dislocations and was rated as 9 on the Numerical Rating Scale (NRS). Physical examination revealed an apprehension sign in the left shoulder. Pain with movement was noted in the left shoulder joint, with the patient reporting minimal discomfort when keeping his shoulder in adduction and internal rotation. Anterior shoulder dislocation was confirmed on direct radiography. Reduction of the shoulder joint was performed in the emergency department using the Cunningham method without sedation or analgesia, resulting in a post-reduction NRS of 3. In addition to shoulder immobilization with an arm sling, Kinesio Taping was applied for shoulder joint stabilization. The patient's NRS was recorded as 1 after 30 minutes. He was prescribed dexketoprofen 25mg orally, up to 75mg daily as needed. On the third day, the patient reported no pain during a telephone follow-up, with an NRS of 0 and did not require any analgesic throughout the treatment. He also expressed satisfaction with the treatment, rating it 10 out of 10 on a satisfaction scale ranging from 0 to 10. Furthermore, the patient noted a sense of continuous support provided by the Kinesio Tape, based on his previous experiences with shoulder dislocations.

Discussion

This case report outlines the successful management of a shoulder dislocation through the adjunctive use of Kinesio Taping subsequent to reduction in the emergency department. The favorable outcomes witnessed immediately post-reduction and during subsequent follow-up underscore the efficacy of this treatment modality.

The literature highlights Kinesio taping as a low-risk, non-pharmacological, cost-effective intervention postoperatively, with promising potential to ameliorate patient outcomes by mitigating postoperative pain and reducing reliance on analgesics (5). This study aims to assess the adjunctive use of Kinesio taping alongside conventional treatment modalities to decrease analgesic consumption during the follow-up period of a patient recovering from shoulder dislocation.

Our patient exhibited a remarkable decrease in post-reduction pain, and notably, during the follow-up period, the pain entirely subsided without necessitating analgesic intervention. This observation aligns closely with findings documented in prior research studies focusing on shoulder injuries. A systematic review highlighted in the existing literature suggests that although Kinesio taping exerts a beneficial impact on the treatment trajectory, its efficacy does not surpass that of placebo and steroid treatments (6).

Navigating the precise benefits of Kinesio taping amid the potential for spontaneous recovery poses a formidable challenge, a conundrum illuminated both by existing literature and our own clinical case. Studies have highlighted the advantages of Kinesio taping in managing recurrent shoulder dislocations, particularly in patients with muscle weaknesses (7). This underscores the potential suitability of Kinesio taping for pain management and stabilization post shoulder dislocation. Nevertheless, further research, encompassing both clinical and neurophysiological investigations, is imperative to delineate the underlying mechanisms comprehensively. To enhance the applicability and understanding of Kinesio taping, future studies should employ randomized controlled trials with standardized methodologies and substantial sample sizes. Such research endeavors are essential to elucidate the clinical role and effectiveness of Kinesio taping across various applications and contexts.

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The Effects of COVID-19 on Pregnancy Outcomes: A Single-Center Retrospective Study

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Background: The majority of research indicates that COVID-19 during pregnancy elevates the likelihood of pregnancy complications. The present study aimed to explore the consequences of COVID-19 infection on pregnancy outcomes.

Methods: This retrospective cross-sectional study included pregnant women with COVID-19 at any time of pregnancy. Age, pregnancy history, medications, chronic diseases, COVID-19 vaccination status, pregnancy complications (abortus, premature rupture of membranes (PROM), preterm labor, preeclampsia, bleeding), and hospitalization status of the patients were analyzed. Descriptive statistics were used for statistical analysis.

Results: During pregnancy follow-up, only one patient (2%) had PROM and two patients (4.1%) had preterm labor. No abortions, preeclampsia, or bleeding was observed. There were no in-hospital deaths during the pregnancy follow-up.

Conclusion: No association between COVID-19 infection and pregnancy complications, indicating an increased risk, could be established. The pregnant women included in the study had no abortions, preeclampsia, or bleeding. Furthermore, the risks of preterm labor and PROM were similar to those in the normal population.

Keywords: COVID-19, pregnancy outcomes, complications, hospitalization

Introduction

Physiological changes in the cardiopulmonary and immune systems during pregnancy make pregnant women more susceptible to infections (1). Additionally, these physiological changes can also affect the mother's overall health and well-being, making it important for pregnant women to take extra precautions to avoid infections and maintain their well-being. During the occurrence of a respiratory tract infection, the likelihood of both morbidity and mortality increases because of the physiological changes that occur during this time. Specifically, the increase in heart rate and oxygen consumption, expansion of the transverse diameter of the thorax, and decrease in lung capacity due to elevation of the diaphragm can all contribute to a decreased tolerance for hypoxia in pregnant women (2). In recent years, one of the most significant threats to the world has been the emergence of a novel coronavirus, commonly referred to as Covid-19 (3). Studies during the pandemic have demonstrated that expectant mothers and newborns are at increased risk of severe SARS-COV-2 infection. The symptoms experienced by these patients are similar to those observed in other adults. Notably, patients with Covid-19 may also experience obstetric complications, as observed in several cases (4).

The present study aimed to explore the consequences of COVID-19 infection on pregnancy outcomes.

Material Methods

This retrospective cross-sectional study included pregnant women infected with COVID-19 at any stage of pregnancy. Data were obtained from the hospital records and antenatal examination databases. The study period was from January 1, 2022, to December 31, 2022. The study analyzed the participants' age, pregnancy history, medications, chronic diseases, COVID-19 vaccination status, pregnancy complications (including miscarriage, premature rupture of membranes (PROM), preterm delivery, preeclampsia, and bleeding), and hospitalization. Descriptive statistics (expressed as numbers and percentages) were used to analyze the data, and statistical significance was set at $P < 0.05$.

Results

A total of 49 pregnant women participated in the study. The average age of the subjects was 29.61 years, with a standard deviation of 5.70 years (ranging from 19 to 41 years). The median number of pregnancies was 3, with a range of 1 to 8. The median number of live births was 1,

with a range of 0 to 4, and the abortion rate was 0, with a range of 0 to 6. 20 (40.8%) pregnant women had a history of at least 1 abortion. Comorbidities were present in 36.7% of the participants (n= 18). Nine women (18.4%) did not use any medications during pregnancy. The most commonly used medications were vitamin supplements (iron/folic acid) (81.63%), followed by low-molecular-weight anticoagulant agents (LMWA) (57.1%). The median gestational age at the time of COVID-19 diagnosis was 16 weeks, with a range of 1 to 39 weeks. Six percent (6.1%) of the participants were hospitalized due to COVID-19 infection. Among the participants, 71.4% received COVID-19 vaccination. During the pregnancy follow-up, only 2% of the women experienced preterm premature rupture of membranes (PROM), and 4.1% experienced preterm labor. No abortions, preeclampsia, or bleeding were observed. There were no in-hospital deaths during the pregnancy follow-up. These result are presented in Table 1.

Table1. Baseline characteristics of the patients

Variables	n (%), (total n = 49)
Age, mean (SD) / (min-max)	29.61 (5.70) / (19-41)
Number of pregnancy, median (min-max)	3 (1-8)
Number of live births, median (min-max)	1 (0-4)
Abortion rate, median (min-max)	0 (0-6)
Pregnant with comorbidity	18 (36.7)
Medication during pregnancy	
Yes	40 (81.6)
No	9 (18.4)
Most commonly used medications	
Vitamins	40 (81.6)
LMWA	28 (57.1)
Hospitalization for COVID-19	3 (6.1)

COVID-19+ gestational week , median (min-max)	16 (1-39)
COVID-19 vaccination status	35 (71.4)
Complications during pregnancy	
PROM	1 (2)
Preterm labor	2 (4.1)
Abortion	0 (0)
Preeclampsia	0 (0)
bleeding	0 (0)

Discussion

Pregnancy during the COVID-19 pandemic has raised concerns about potential complications for both the mother and fetus. Studies have shown that pregnant individuals with COVID-19 are at a greater risk of adverse outcomes than non-pregnant individuals (5,6). Specifically, severe COVID-19 infection during pregnancy has been associated with an increased risk of pregnancy and birth complications, particularly in women with preexisting medical conditions (7). In a study by Hao et al. examining the consequences of the COVID-19 pandemic on uninfected pregnant women, a higher rate of adverse pregnancy outcomes, including preterm birth, was reported in the pandemic group compared to the pre-pandemic group (8). However, in our study, we did not find any evidence that COVID-19 increased pregnancy complications. Hospitalization rates for COVID-19 in pregnancy have been a significant concern due to the potential impact on maternal and fetal health. Studies have shown that pregnant women with COVID-19 have higher rates of hospitalization compared to non-pregnant individuals. Studies indicate that pregnant women with COVID-19 are disproportionately hospitalized, with rates ranging from 10% to 31% (9-11). In our study, there were very few hospitalizations due to COVID-19 among pregnant women followed up. We believe that a mild infection clinic in pregnant women is the main reason for the low number of pregnancy complications.

Conclusion

Based on our findings, no connection was observed between COVID-19 infection and the development of pregnancy complications that pose a heightened risk. Among the pregnant women who participated in our study, there were no reported cases of abortion, preeclampsia,

or bleeding. Additionally, the risks of preterm labor and PROM were comparable to those in the general population. Notably, there was no discernible increase in hospitalization rates among pregnant women who tested positive for COVID-19.

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5653

Karbonmonoksit İntoksikasyonu Sonrası Gelişen St Segment Elevasyonlu Myokard Enfarktüsü

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ÖZET

Giriş

Miyokardiyal iskeminin primer nedeni, koroner arterlerin aterosklerotik lezyonlarıdır. Klinikte, zemininde koroner arter hastalığının olduğunu bildiğimiz hastalarda, karbonmonoksit gibi tetikleyici faktörler de göz önünde bulundurulmalıdır. Bu yazıda, karbonmonoksit zehirlenmesi nedeniyle acil serviste takip edilen ve sonrasında gelişen ST segment elevasyonlu miyokard enfarktüsü tanısı alan bir olguyu anlattık.

Olgu

33 yaşında erkek hasta şiddetli baş ağrısı şikâyeti ile acil servise başvurdu. Hastanın başvuru anında alınan kan gazında Karboksihemoglobin (COHb) seviyesi %26,4 olarak saptandı. Karbonmonoksit intoksikasyonu tanısı ile takip ve tedavi amacıyla müşahede altına alınan hastada takiplerinin 1. saati dolmadan şiddetli göğüs ağrısı gelişti. Eş zamanlı alınan elektrokardiyogramında D2-3 ve aVF derivasyonlarında ST segment elevasyonu izlendi. İnférieur akut miyokard infarktüsü (AMI) ön tanısıyla kardiyojolojiye konsülte edilen hasta takip ve tedavi amacıyla koroner yoğun bakım ünitesine interne edildi.

Tartışma

Karbonmonoksit intoksikasyonunun miyokard infarktüsüne yol açma mekanizması tam olarak anlaşılammıştır, ancak çeşitli olası mekanizmalar önerilmiştir. Bunlar arasında, karbonmonoksitin aterosklerotik plaklarda inflamasyonu artırması, trombosit aktivasyonunu ve agregasyonunu artırması, endotel hücre fonksiyonlarını bozması ve vasküler tonusu etkilemesi

sayılabilir. Bu mekanizmaların kombinasyonu, karbonmonoksit zehirlenmesinin miyokard enfarktüsü riskini artırabileceğini göstermektedir.

Sonuç

Tanıya ulaşmanın yolu önyargısız detaylı alınan bir anamnez, yakın takip ve şikâyet gelişmesi halinde yapılacak seri elektrokardiyogram (EKG) ve kardiyak enzim takibidir.

Anahtar Kelimeler: Karbonmonoksit intoksikasyonu, miyokard infarktüsü, acil

St Segment Elevation Myocardial Infarction Following Carbonmonoxide Intoxication

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ABSTRACT

Introduction

The primary cause of myocardial ischemia is atherosclerotic lesions of the coronary arteries. Triggering factors such as carbonmonoxide should also be taken into consideration in patients whose clinical background we know to have coronary artery disease. In this article, we described a case who was followed up in the emergency department due to carbonmonoxide poisoning and subsequently diagnosed with ST segment elevation myocardial infarction.

Case

A 33-year-old male patient applied to the emergency room complaining of severe headache. The patient's Carboxyhemoglobin (COHb) level was found to be 26.4% in the blood gas taken at the time of admission. The patient, who was kept under observation for follow-up and treatment with the diagnosis of carbonmonoxide intoxication, developed severe chest pain before the end of the first hour of follow-up. ST segment elevation was observed in leads D2-3 and aVF on the simultaneously taken electrocardiogram. The patient was consulted to

cardiology with the preliminary diagnosis of inferior acute myocardial infarction (AMI) and was admitted to the coronary intensive care unit for follow-up and treatment.

Discussion

The mechanism by which carbonmonoxide intoxication causes myocardial infarction is not fully understood, but several possible mechanisms have been proposed. These include carbon monoxide increasing inflammation in atherosclerotic plaques, increasing platelet activation and aggregation, disrupting endothelial cell functions and affecting vascular tone. The combination of these mechanisms suggests that carbon monoxide poisoning may increase the risk of myocardial infarction.

Conclusion

The way to reach a diagnosis is a detailed, unbiased anamnesis, close follow-up, and serial electrocardiogram (ECG) and cardiac enzyme monitoring in case of complaints.

Keywords: Carbonmonoxide intoxication, myocardial infarction, emergency

GİRİŞ

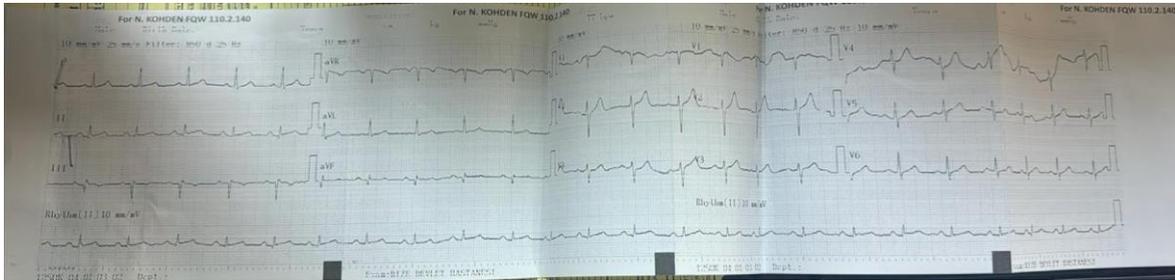
Karbonmonoksit (CO), fiziksel özellikleri açısından, kokusuz, renksiz, tatsız bir gazdır ve bu özellikleri nedeniyle “sessiz katil” olarak nitelendirilmektedir. CO zehirlenmesi, klinik olarak bulantı (%40), baş ağrısı (%46), dispne (%20) ve taşikardi (%41) gibi sık görülen semptomlarla karşımıza çıkabilir. CO‘in hemoglobine (Hb) affinitesi, oksijenin Hb‘e afinitesinden yaklaşık 240 kat fazladır ve Hb‘e bağlanarak, onun oksijen taşıma kapasitesini bloke eder [1].

Miyokardiyal iskemiye kısaca, miyokardiyuma sunulan oksijenin talebi karşılayamaması olarak tanımlayabiliriz. En sık nedeni koroner arterlerin aterosklerotik lezyonlarıdır. Klinikte zeminde koroner arter hastalığının olduğunu bildiğimiz hastalarda tetikleyici faktörler de göz önünde bulundurulmalıdır. Bu olgu sunumunda, koroner arter hastalığı hikayesi olan, karbonmonoksit zehirlenmesi ile tetiklenen bir akut miyokard infarktüsü olgusu sunmaktayız.

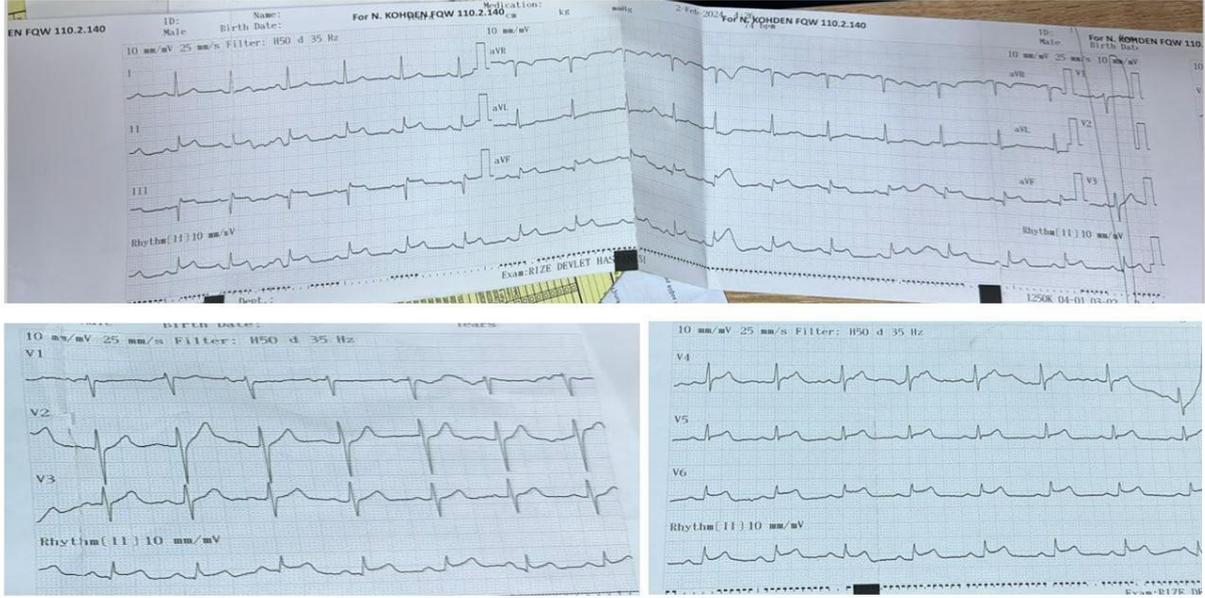
OLGU

33 yaşında erkek hasta dış merkeze şiddetli baş ağrısı şikâyeti ile başvurmuş. Hasta şikayetlerinin 2 saat önce başladığını ve aynı evde yaşayan diğer bireylerde de olduğunu ifade ediyor. Özgeçmişinde koroner arter hastalığı, hipertansiyon, hiperlipidemi öyküsü mevcut. Asetilsalisilik asit, tikagrelor, atorvastatine, ramipril ve metoprolol kullanımı mevcut.

Fizik muayenede vital parametreleri stabil, GKS:15, bilinç açık, oryantasyon ve kooperasyon bozukluğu yok. Nörolojik muayene doğal. Hastanın başvuru anında alınan EKG'sinde akut patolojik bulgu saptanmadı (Şekil 1). Başvuru anında alınan kan gazında pH: 7,41 pCO₂:42,3 mmHg, HCO₃:24,9 mmol/L, Lac:1,8 mmol/L, COHb: %26,4 olarak sonuçlanmış. Karbonmonoksit intoksikasyonu tanısıyla oksijen ve semptomatik tedavi başlanarak takip altına alındı. Hasta takiplerinin birinci saati dolmadan şiddeti göğüs ağrısı tarifledi. EKG'sinde D2-3 ve aVF derivasyonlarında ST segment elevasyonu izlendi (Şekil 2). İnferyor AMI ön tanısıyla kardiyolojiye konsülte edilen hasta takip ve tedavi amacıyla koroner yoğun bakım ünitesine interne edildi. Hastanın yapılan koroner anjiyografi işlemi sonucu 2 yıl önce yapılan koroner arterdeki plak lezyonları ile uyumlu olduğu yeni gelişen bir obstrüksiyon olmadığı raporlandı. CO intoksikasyonu sonrası inferior derivasyonlarda geçici ST segment elevasyonu olarak değerlendirilen hasta için medikal izlem kararı alındı.



Şekil 1. Başvuru anında alınan EKG'sinde akut patolojik bulgu yok



Şekil 2. Semptom geliştikten sonra alınan EKG'sinde D2-3 ve aVF derivasyonlarında ST segment elevasyonu

TARTIŞMA

Karbonmonoksit tatsız, kokusuz, renksiz ve iritan olmayan bir gazdır. Bu özellikleri nedeniyle “sessiz öldürücü” olarak da tanımlanmıştır.[2]. CO zehirlenmesi yeterince havalanmayan bir ortamda gelişen herhangi bir yanma reaksiyonu sonucu, araba egzozu, endüstriyel maddeler veya yangına bağlı olarak ortaya çıkan CO gazının solunması sonucu meydana gelir. ABD’de zehirlenmeye bağlı ölüm nedenleri arasında ilk sırayı alır [3]. Türkiye’de de benzer olarak ölümle sonuçlanan zehirlenme vakalarının yaklaşık %31’inde neden CO zehirlenmesidir [4]. Ülkemizden CO zehirlenmesi sonucu miyokard infarktüs vakaları sık bildirilmektedir [2,5]. Ülkemizde CO zehirlenmesinin sık olmasının nedenleri arasında soğuk ve rüzgârlı bir iklimin olması, kömür kullanımının yaygınlığı, doğalgaz sistem bakımlarının düzenli yapılmaması ile kömür ve doğalgaz kullanımı konusunda yeterli eğitimin verilmemesi sayılabilir.

Akut CO zehirlenmesi; minimal semptomlardan bilinç kaybına, hipotansiyon, ciddi asidemi veya akut solunum yetersizliğine kadar son derece farklı klinik prezentasyonlara sahip olabilir [6]. Santral sinir sistemi ve kardiyovasküler sistem, metabolizması için yüksek oksijen seviyeleri gerektirir ve hipoksiye karşı çok duyarlı sistemlerdir. CO zehirlenmesine ilişkin

SONUÇ

CO intoksikasyonu akut miyokard infarktüsü başta olmak üzere kardiyovasküler sistem üzerinde çeşitli patolojilere yol açabilir. Tanıya ulaşmanın yolu önyargısız detaylı alınan bir anamnez, yakın takip ve şikâyet gelişmesi halinde yapılacak seri EKG ve kardiyak enzim takibidir.

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CRP of viral and bacterial pneumonia in hospitalized geriatrics: Emergency MedicineAslı Türkey Kunt¹, Betül Evren Gülalp¹, Mehmet Hüsamettin Akkçük¹, Nalan Akalın²¹Başkent University Faculty of Medicine, Department of Emergency Medicine²Başkent University Faculty of Medicine, Department of Biochemistry

Introduction: The aim is to clarify the first CRP levels tested in Emergency Department (ED) comparing of viral and bacterial pneumonia patients as a hospitalization criteria in geriatrics.

Methods: It is a retrospective study that is researched from the database on Nucleus, lung images on Clearcanvas. Inclusion criteria are being ≥ 65 years old, hospitalized within indication of pneumonia between 01.12.2023-29.02.2024, evidenced of pneumonia in imaging.

Results: There was a total of 74 patients. 46 (62.2%) of the patients were diagnosed with bacterial pneumonia and 28 (37.8%) with viral pneumonia. While the average age of patients diagnosed with bacterial pneumonia was 76.3 ± 8.4 years; it was 77.3 ± 7.4 in those diagnosed with viral pneumonia ($p = 0.630$). The mean CRP value of the patients was 143.9 ± 78.4 in patients with bacterial pneumonia, 68.3 ± 44.5 in those with viral pneumonia; respectively ($p < 0.001$). Table 1 demonstrates the mean CRP values of bacterial and viral pneumonia along with a comparison. Figure 1 specifies the difference on diagram.

Conclusion: The time period was involved mostly bacterial pneumonia patients required hospitalization. Beside, CRP at ED in hospitalized geriatrics caused viral pneumonia was found lower than the bacterial ones.

Key words: Emergency Medicine, Geriatrics, Pneumonia, CRP, Hospitalization

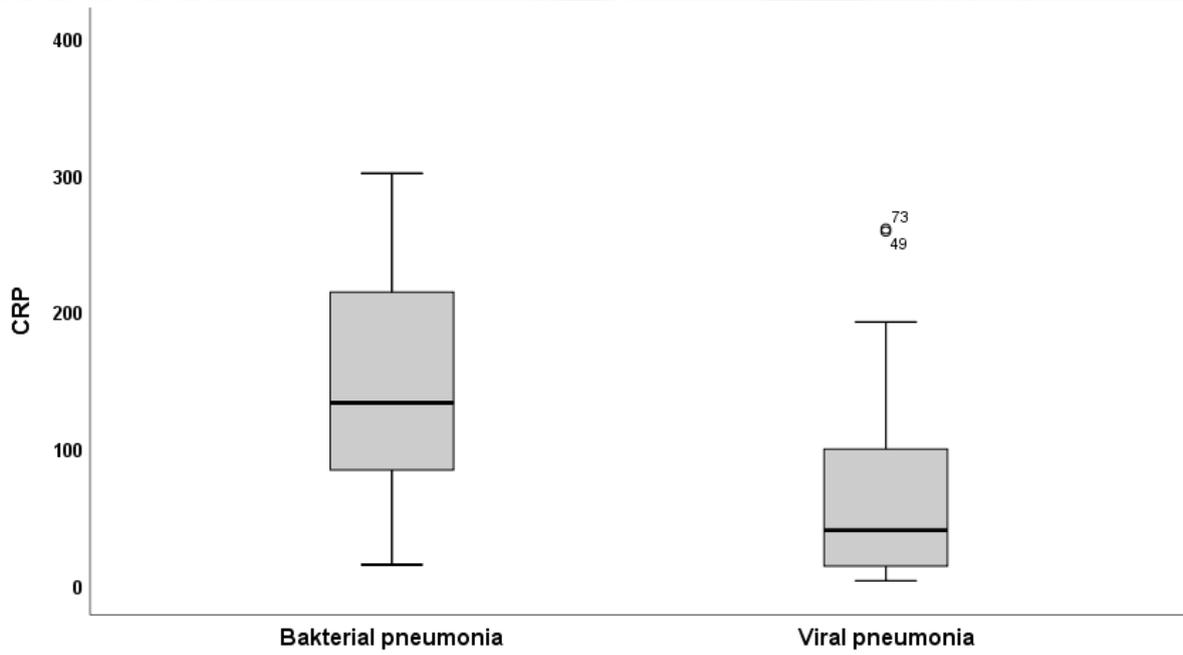


Figure 1. CRP difference between bacterial and viral pneumonia.

	Bacterial (n=46)	Viral (n=28)	p
CRP	143.9 ± 78.4	68.3 ± 44.5	0.001*
Age	76.3 ± 8.4	77.3 ± 7.4	0.630

*independent sample t test

Table 1. The mean CRP values of bacterial and viral pneumonia along with a comparison.

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DEATH IN THE EMERGENCY DEPARTMENT CAUSED BY INABILITY TO RECOGNIZE THE ENVIRONMENT

Bilgehan Demir, Muhammed Eyyüb Polat

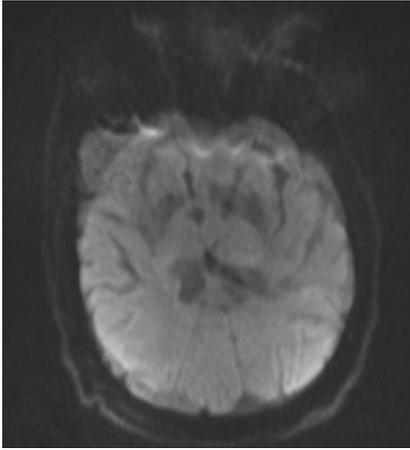
Abstract:

Bacillary peak clinical syndrome, which causes a picture with alternating changes, amnesic states, involuntary movements, and hallucinations due to distal bacillary artery occlusion, is most frequently referred to the service as loss of consciousness (46.6%) and change with emergency (26.6%). (1) The most common behavioral changes are the amount of environmental perception and hallucinations. This situation is seen as an abnormality or often normal situations during examinations in the emergency room. The fact that he has been in middle age for many years leads to the conclusion that the deterioration in his behavior is due to his life. The mortality rate of basilar artery occlusion is 86%(2). We determined that two cases, including one eyewitness, that we caught in a short time, were caused by bacillary hill therapy. We tried to emphasize the importance of assessing the damage in these patients.

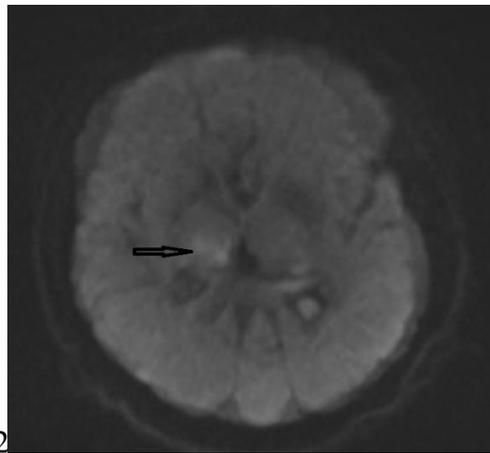
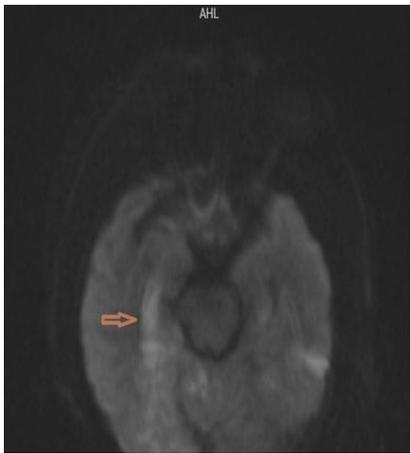
Case 1:

- A 53-year-old male patient was brought to the emergency room due to sudden confusion. The only etiology was heart failure. No abnormal values were observed in the patient's blood tests, except for CRP: 1.3 mg/dl and WBC: 18.34. On examination, there was no neck stiffness, breathing sounds were normal upon auscultation, and skin color and natural vitals were evaluated as normal except for high blood pressure (180/95). In the electrocardiography (echo), ejection fraction was 60% and no valve movement limitation was detected. The patient's magnetic resonance imaging (MRI) and brain tomography (CT) were evaluated as normal (Figure 1). The patient, who was disoriented from time to time, was followed up as there was no improvement in the level of consciousness. Toxicological markers and urine tests were studied and evaluated as

normal. The patient was evaluated as normal by the neurology and cardiology department concentrations. The patient, who was followed up in the emergency room for 10 hours, had no change in his condition and the blood pressure continued to be 190/100. CT and MRI images were repeated to check for sac and hypertensive encephalopathy. The patient's CT scan was also normal, but it was determined that the patient had an infarction in the bacillary area on MRI. The patient was consulted again to neurology, and with the preliminary diagnosis of bacillary apex infarction (Figure 2), the patient was admitted to intensive care and treatment was started.



picture 1



picture 2

Case 2

A 38-year-old female patient was brought to the emergency room due to a sudden change in consciousness that started at night. He was unconscious and had a decerebrate response to painful stimuli. Etiology included a history of migraine, hypertension and thyroid surgery. There were no abnormal findings in the patient's blood tests except Crp: 0.7 mg/dl and Wbc: 15.30. Brain CT was evaluated as normal. diff MRI showed acute infarcts in the posterior system and occlusion in the bacillary artery. Thrombolytic treatment was started for the patient and no change was observed in his clinical condition. The patient was referred to the university due to the need for interventional radiology and intensive care.

Discussion:

Cerebro Vascular Disease (CVD), which develops due to bacillary artery occlusion, accounts for 4% of all CVDs. Bacillary apex syndrome causes a clinical picture with various loss of consciousness, amnesic states, involuntary movements and hallucinations due to distal bacillary artery occlusion (3). In the etiology of the disease; Congestive Heart Failure (CHF), Coronary Artery Disease (CAD), Atrial Fibrillation (AF), Diabetes Mellitus (DM), Hypertension (HT). Our patient was also included in the etiology of CHF. DM is a recognized independent risk factor for LVH and its associated morbidity and mortality are higher. (4) Kıroğlu et al. reported that the most common symptoms of TOBS are motor deficits (53.3%) and loss. Loss of consciousness (46.6%), visual/oculomotor symptoms (43.3%), cerebellar dysfunction (40.0%), behavioral disorder (26.6%) and speech disorder (16.6%) were detected(1).

Results:

Large lesions involving the thalamus, cerebellum and midbrain are observed in Tobs. The disease is observed more frequently in men than in women. Clinical course of the disease: Visual and oculomotor disorders, changes in mental status, behavioral disorders, cerebellar disorders and hallucinations. (1) For this disease, which results in death and whose initial symptoms are frequently seen in emergency rooms and do not suggest serious illness, even one patient to be detected is of vital importance, thanks to the clinicians being more careful and aware of TOBS.



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Evaluation of patients diagnosed with acute appendicitis in terms of laboratory parameters

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Abstract

Introduction and Purpose: Acute appendicitis is the most common condition requiring emergency abdominal surgery globally, with no specific diagnostic marker defined so far. This study aimed to determine the predictive value of hemogram and biochemical parameters in the differential diagnosis of acute and complicated appendicitis, along with clinical findings, in patients diagnosed with acute appendicitis.

Materials and Methods: Our study was conducted in a retrospective cross-sectional design on 381 patients (209 male and 172 female; average age = 35.90 ± 16.16 years) diagnosed with acute appendicitis between 2014 and 2019, with complete file data. Patients were categorized into three groups: normal ($n = 23$), acute ($n = 318$), and complicated ($n = 40$) appendicitis, and their hemogram and biochemical parameters were analyzed. Descriptive statistics, the Kruskal–Wallis H test, the One Way Anova F , the chi-square test for categorical variables, and receiver-operating characteristic curve analysis were used to determine the diagnostic performance of variables. Multiple logistic regression analyses to determine significant predictive factors of complicated appendicitis were used to evaluate the data. A p -value < 0.05 indicated a statistically significant difference.

Results and Conclusion: The neutrophil percentage was statistically significantly higher in the complicated group than in the normal group ($p = 0.003$). The C-reactive protein (CRP) levels were statistically higher in the complicated group than in the normal and acute groups ($p < 0.001$). The neutrophil percentage showed a 75.00% sensitivity and 47.06% specificity ([area

under the curve [AUC] = 0.639, 95% confidence interval [CI] = 0.556–0.723, $p = 0.004$), whereas the CRP level demonstrated 97.50% sensitivity and 26.98% specificity in predicting complicated appendicitis (AUC = 0.754, 95% CI = 0.679–0.829, $p < 0.001$). The multiple logistic regression analysis revealed that patients with high neutrophil percentages had a 2.313-fold higher risk of having complicated appendicitis compared with the others ([odds ratio [OR]] = 2.313, 95% CI = 1.085–4.928, $p = 0.030$) and patients with high CRP levels had 12.677-fold higher risk to have complicated appendicitis compared with the others (OR = 12.677, 95% CI = 1.710–93.987, $p = 0.013$). High neutrophil percentage and CRP values showed that acute appendicitis was likely to be complicated. The diagnosis of appendicitis is multifactorial. Therefore, evaluating patients together with clinical and laboratory parameters may help diagnose appendicitis.

Keywords: Acute appendicitis, Complicated appendicitis, Emergency department

INTRODUCTION

Acute appendicitis is the most common problem requiring emergency abdominal surgery globally with a lifetime prevalence of 7%–8%. Therefore, abdominal emergency surgery is the most often performed surgical procedure playing an essential role in the healthcare system (1). Men and women have an 8.6% and a 6.9% respectively lifetime risk of developing acute appendicitis. The risk of perforation in patients with acute appendicitis ranges from 13 to 20 (2).

The obstruction of the appendix lumen for various reasons results in an increase in the production of mucus and bacterial proliferation in the lumen. This progresses to a gradual increase in pressure in the lumen, an increase in appendix wall tension, necrosis, and perforation, and thus is a significant cause of mortality (3). Acute appendicitis can be classified as a normal (without any signs of inflammation), simple uncomplicated, and complicated (gangrenous, perforated, pelvic, or abdominal abscess) appendix based on its microscopic appearance (1).

Acute appendicitis has a high prevalence; however, its diagnosis is difficult because of its atypical clinical presentation. Therefore, the patient's history, physical examination results, and laboratory parameters need to be evaluated (4). Nausea, vomiting, and abdominal pain from

the periumbilical area to the right lower quadrant are the most common symptoms of acute appendicitis. Defense, rebound, or percussion tenderness suggests local peritonism. Rovsing's sign (palpation of the left iliac fossa, causing pain in the right iliac fossa) and psoas sign (passive hip extension, causing pain in the left lateral position) have limited diagnostic value for acute appendicitis (2). The body temperature generally does not exceed 38.3°C, and a higher fever suggests perforation (5). The risk of appendicitis is extremely low if the patients have right iliac fossa pain without any signs of peritonism and their blood test results and ultrasound scan are normal. (2). Although ultrasonography is the most recommended radiological method, computed tomography has become the most widely accepted imaging method in adult patients (1, 3). The C-reactive protein (CRP) level, white blood cell (WBC) count, and bilirubin level have been defined as markers, especially in perforated appendicitis (6, 7). The CRP level is more likely to increase in patients whose symptoms persist for over 12 hours. Therefore, a left shift (combination of more than 75% neutrophils) with a high WBC count and high CRP level increases the sensitivity to 97%–100% for diagnosing acute appendicitis (5).

This study aimed to determine the predictive value of hemogram and biochemical parameters in the differential diagnosis of acute and complicated appendicitis together with clinical findings in patients diagnosed with acute appendicitis.

MATERIALS AND METHODS

Ethical considerations: This retrospective cross-sectional study was approved by the local ethics committee of the Dean's Office of Kafkas University Faculty of Medicine (dated 30.04.2019 and numbered 80576354-050-99/125).

Study design: In this study, the medical records of patients diagnosed with acute appendicitis in the emergency department and general surgery outpatient clinic of Kafkas University Faculty of Medicine Health Research and Application Hospital between January 2014 and March 2019 were analyzed. Patients who underwent acute appendicitis surgery in the same hospital were included in a retrospective cross-sectional research design.

Population and sample of the study: No sample selection method was used in this study. The patients diagnosed with acute appendicitis, whose file data were complete, were included in the study. Patients aged less than 18 years, whose data were incomplete, were not included in the study. A total of 622 patient files were analyzed within the scope of the data

collection form; 381 patients (172 female and 209 male; mean age 35.90 ± 16.16 [range 18–84] years) were included in the study after excluding 241 with missing data.

Data collection form: A data collection form was used to examine the patients diagnosed with acute appendicitis. Patients' age, sex, and presenting complaints were recorded on this form. Patients with incomplete data and those with a history of Gilbert syndrome, Dubin-Johnson syndrome, alcoholism, viral hepatitis, liver disease, or biliary disease associated with hyperbilirubinemia were excluded. Considering the upper limits of the hospital laboratory values in the study, the following results were recorded in the dataset: WBC count = $3.7\text{--}10.4 \times 10^3/\mu\text{L}$; neutrophil percentage = 39.9%–75.4%; neutrophil count = $1.8\text{--}7.8 \times 10^3/\mu\text{L}$; lymphocyte percentage = 16.1%–48.7%; lymphocyte count = $0.9\text{--}3.7 \times 10^3/\mu\text{L}$; monocyte percentage = 3.8%–11.1%; monocyte count = $0.3\text{--}0.9 \times 10^3/\mu\text{L}$; eosinophil percentage = 0.8%–7.3%; eosinophil count = $0.1\text{--}0.6 \times 10^3/\mu\text{L}$; hemogram = 10.8–15.1 g/dL; hematocrit = 32.7%–45%; platelet count = $149\text{--}371 \times 10^3/\mu\text{L}$; alanine aminotransferase (ALT) level = 0–33 U/L; aspartate aminotransferase (AST) level = 0–32 U/L; alkaline phosphatase (ALP) level = 40–130 U/L; gamma-glutamyl transferase (GGT) level = 5–36 U/L; lipase level = 13–60 U/L; amylase level = 28–100 U/L; total bilirubin level = 0–1.2 mg/dL; direct bilirubin level = 0–0.3 mg/dL; CRP level = 0–0.5 mg/dL; glucose level = 70–100 mg/dL; urea level = 10–50 mg/dL; creatinine level = 0.5–0.9 mg/dL; lactate dehydrogenase (LDH) level = 135–214 U/L; and albumin level = 3.5–5.2 g/dL. The patients were classified into three groups: normal ($n = 23$), acute ($n = 318$), and complicated appendicitis ($n = 40$) (perforated, gangrenous, and suppurative appendicitis).

Statistical analysis

Statistical analyses were performed using the Statistical Package for the Social Sciences 20.0 package program (IBM Corporation, Armonk, NY, USA). Histograms and Q-Q plots were used to determine whether the variables were normally distributed. The data were expressed as mean \pm standard deviation or median (first quartile to third quartile) for continuous variables according to the normality of distribution and as frequency (percentage) for categorical variables. Normally distributed variables were analyzed with a one-way analysis of variance (ANOVA F). Pairwise comparisons of these variables were performed using Tukey's or Tamhane's test depending on the homogeneity of variance. Non-normally distributed variables were analyzed using the Kruskal–Wallis test. The pairwise comparisons of these variables were

performed using the Bonferroni correction method. The categorical variables were analyzed using the chi-square tests. The diagnostic performance of the variables was evaluated with the receiver-operating characteristic (ROC) curve analysis and performance indicators (sensitivity, specificity, accuracy, positive predictive value (PPV), and negative predictive value). Multiple logistic regression analysis (forward conditional method) was performed to determine significant predictive factors of complicated appendicitis. Two-tailed *p*-values less than 0.05 indicated statistically significant differences.

RESULTS

The male percentage was significantly higher in the complicated group than in the other groups (*p* = 0.024). A total of 96 (25.20%) cases were reported in spring, 94 (24.67%) cases in summer, 91 (23.88%) cases in autumn, and 100 (26.25%) cases in winter. The frequency of reported cases in seasons was statistically similar (*p* = 0.269). In addition, no significant differences were found between groups in terms of age and seasons (Table 1).

Table 1. Summary of patient characteristics

	Classification			<i>p</i>
	Normal (<i>n</i> =23)	Acute appendicitis (<i>n</i> =318)	Complicated appendicitis (<i>n</i> =40)	
Age	28 (21 – 43)	31 (22 – 44)	40 (25 – 55)	0.077
Sex				
Female	14 (60.87%)	147 (46.23%)	11 (27.50%)	0.024
Male	9 (39.13%)	171 (53.77%)	29 (72.50%)	
Season				
Spring	8 (34.78%)	76 (23.9%)	12 (30.00%)	0.269
Summer	5 (21.74%)	81 (25.47%)	8 (20.00%)	
Autumn	1 (4.35%)	81 (25.47%)	9 (22.50%)	
Winter	9 (39.13%)	80 (25.16%)	11 (27.50%)	

The data are expressed as median (first quartile to third quartile) for continuous variables according to normality of distribution and as frequency (percentage) for categorical variables.

The lymphocyte counts were significantly higher in the acute group than in the complicated group ($p = 0.007$). The eosinophil counts were significantly higher in the acute group than in the complicated group ($p = 0.028$). The neutrophil percentages were significantly higher in the complicated group than in the normal group ($p = 0.003$). The lymphocyte percentages were significantly lower in the complicated group than in the normal and acute groups ($p = 0.010$). The eosinophil percentages were significantly lower in the complicated group than in the normal and acute groups ($p = 0.029$). No significant differences were observed between groups in terms of WBC counts ($P = 0.543$) and monocyte percentages ($p = 0.974$) (Table 2).

The creatinine levels were significantly higher in the complicated group than in the normal group ($p = 0.027$). The CRP levels were significantly higher in the complicated group than in the normal and acute groups ($p < 0.001$). The calcium levels were significantly higher in the acute group than in the complicated group ($p = 0.016$). The amylase levels were significantly higher in the acute group than in the complicated group ($p = 0.018$). No significant differences were found between groups in terms of AST levels ($p = 0.101$), ALT levels ($p = 0.110$), ALP levels ($p = 0.434$), GGT levels ($p = 0.272$), total bilirubin levels ($p = 0.266$), and other biochemical markers (Table 2).

Table 2. Summary of hematologic markers

	Classification			
	Normal ($n=23$)	Acute appendicitis ($n=318$)	Complicated appendicitis ($n=40$)	p
WBC	10.15 (7.9 – 14.9)	12.1 (9 – 14.6)	11.45 (9.6 – 14.2)	0.543
Hemoglobin	13.40 ± 2.19	14.07 ± 2.12	13.59 ± 2.38	0.174
Hematocrit	40.16 ± 6.61	42.30 ± 6.13	41.28 ± 6.79	0.200
Neutrophil	7.94 (4.84 – 13)	8.9 (6.33 – 12.1)	9.18 (7.39 – 11.9)	0.427
Lymphocyte	1.6 (1.04 – 2.37) ^{ab}	1.73 (1.2 – 2.3) ^a	1.38 (0.92 – 1.67) ^b	0.007
Monocyte	0.61 (0.45 – 0.8)	0.68 (0.44 – 0.9)	0.7 (0.52 – 0.96)	0.538
Eosinophil	0.12 (0.08 – 0.21) ^{ab}	0.14 (0.10 – 0.20) ^a	0.10 (0.08 – 0.15) ^b	0.028
Neutrophil (%)	72.80 ± 12.64 ^a	74.68 ± 11.28 ^{ab}	79.98 ± 8.65 ^b	0.003
Lymphocyte (%)	20.3 (7.3 – 28.2) ^a	15.5 (9.5 – 22.7) ^a	11.43 (7.7 – 14.15) ^b	0.010

Monocyte (%)	6.07 ± 2.41	6.16 ± 3.69	6.07 ± 2.78	0.974
Eosinophil (%)	1.1 (0.7 – 2.3) ^a	1.1 (0.8 – 1.88) ^a	0.9 (0.6 – 1.53) ^b	0.029
			249.5 (206.5 –	
Platelet	274 (212 – 305)	240 (204 – 287)	290.5)	0.244
Glucose	102 (88 – 123)	100 (91 – 115)	100 (92.5 – 118.5)	0.634
Urea	25 (18 – 29)	28 (20 – 34)	29.4 (23 – 35.5)	0.179
Creatinine	0.69 (0.59 – 0.82) ^a	0.78 (0.63 – 0.91) ^{ab}	0.86 (0.72 – 1.00) ^b	0.027
AST	16 (12 – 21)	18 (15 – 24)	17 (14 – 21)	0.101
ALT	14 (10 – 16)	17 (12 – 24)	15.5 (11.5 – 25)	0.110
ALP	67 (58 – 95)	74 (63 – 93)	78 (64 – 103)	0.434
GGT	10 (6 – 23.5)	12 (7 – 22)	16 (8 – 27)	0.272
			12.21 (2.69 –	<0.00
CRP	0.81 (0.35 – 3.67) ^a	1.93 (0.45 – 5.43) ^a	18.38) ^b	1
Total bilirubin	0.46 (0.32 – 0.93)	0.69 (0.43 – 1.02)	0.72 (0.44 – 1.22)	0.266
Direct bilirubin	0.18 (0.1 – 0.34)	0.2 (0.14 – 0.3)	0.22 (0.15 – 0.37)	0.261
Amylase	50.29 ± 21.21 ^{ab}	56.87 ± 24.15 ^a	44.00 ± 16.31 ^b	0.018
Lipase	18 (12 – 35)	23 (18 – 30)	21.5 (15 – 26)	0.124
Albumin	4.17 (3.81 – 4.45)	4.2 (3.7 – 4.62)	4.08 (3.36 – 4.4)	0.150
LDH	211 (161 – 228)	207 (174 – 250)	199 (179 – 236)	0.984

The data are expressed as mean ± standard deviation or median (first quartile to third quartile) for continuous variables according to normality of distribution. Same letters denote the lack of statistically significant differences between groups.

The evaluation of certain markers with determined cutoff points revealed that 30 (75.00%) patients in the complicated group, 11 (47.83%) individuals in the normal group, and 169 (53.31%) patients in the acute group had high neutrophil percentages ($p = 0.026$). In addition, 39 (97.50%) patients in the complicated group, 15 (65.22%) individuals in the normal group, and 234 (73.58%) patients in the acute group had high CRP levels ($p = 0.002$). None of the individuals had high lymphocyte percentages. No significant differences were found between groups in terms of high WBC counts ($p = 0.180$), high monocyte percentages ($p = 0.882$), high AST levels ($p = 0.708$), high ALT levels ($p = 0.471$), high ALP levels ($p = 0.472$), high GGT levels ($p = 0.461$), and high total bilirubin levels ($p = 0.606$) (Table 3).

Table 3. Summary of cases with high cutoff points for certain markers

	Classification			<i>p</i>
	Normal (<i>n</i> =23)	Acute appendicitis (<i>n</i> =318)	Complicated appendicitis (<i>n</i> =40)	
WBC (≥ 10.4)	11 (47.83%)	211 (66.56%)	25 (62.50%)	0.180
Neutrophil ($\geq 75.4\%$)	11 (47.83%) ^a	169 (53.31%) ^a	30 (75.00%) ^b	0.026
Lymphocyte ($\geq 48.7\%$)	0 (0.00%)	0 (0.00%)	0 (0.00%)	N/A
Monocyte ($\geq 11.1\%$)	1 (4.35%)	13 (4.10%)	1 (2.50%)	0.882
AST (≥ 32)	1 (4.35%)	29 (9.12%)	4 (10.26%)	0.708
ALT (≥ 33)	1 (4.55%)	39 (12.26%)	6 (15.00%)	0.471
ALP (≥ 105)	4 (17.39%)	36 (12.00%)	7 (17.95%)	0.472
GGT (≥ 36)	4 (20.00%)	30 (10.83%)	4 (11.43%)	0.461
CRP (≥ 0.5)	15 (65.22%) ^a	234 (73.58%) ^a	39 (97.50%) ^b	0.002
Total bilirubin (≥ 1.2)	4 (17.39%)	59 (18.55%)	10 (25.00%)	0.606

The data are expressed as frequency (percentage) for categorical variables. Same letters denote the lack of statistically significant differences between groups.

The neutrophil percentages ($\geq 75.4\%$) demonstrated 75.00% sensitivity, 47.06% specificity, 50.00% accuracy, 14.29% PPV, and 94.12% negative predictive value for predicting complicated appendicitis. The area under the ROC curve was 0.639 (95% CI = 0.556–0.723, $p = 0.004$). The CRP levels (≥ 0.5) exhibited 97.50% sensitivity, 26.98% specificity, 34.38% accuracy, 13.54% PPV, and 98.92% negative predictive value for predicting complicated appendicitis. The area under the ROC curve was 0.754 (95% CI = 0.679–0.829, $p < 0.001$). The WBC counts, lymphocyte percentages, monocyte percentages, AST levels, ALT levels, ALP levels, GGT levels, and total bilirubin levels could not be used to predict complicated appendicitis (Table 4).

Table 4. Performance indicators of complicated appendicitis

	Cut-off	Sensitivity	Specificity	Accuracy	PPV	NPV	AUC (95.0% CI)	<i>p</i>
WBC	≥ 10.4	62.50%	34.71%	37.63%	10.12%	88.72%	0.498 (0.403 – 0.592)	0.961
Neutrophil (%)	≥ 75.4%	75.00%	47.06%	50.00%	14.29%	94.12%	0.639 (0.556 – 0.723)	0.004
Lymphocyte (%)	≥ 48.7%	0.00%	100.00%	89.47%	N/A	89.47%	0.357 (0.278 – 0.436)	N/A
Monocyte (%)	≥ 11.1%	2.50%	95.88%	86.05%	6.67%	89.32%	0.521 (0.414 – 0.628)	0.664
AST	≥ 32	10.26%	91.20%	82.89%	11.76%	89.88%	0.437 (0.341 – 0.533)	0.197
ALT	≥ 33	15.00%	88.24%	80.53%	13.04%	89.82%	0.487 (0.393 – 0.581)	0.786
ALP	≥ 105	17.95%	87.62%	80.11%	14.89%	89.84%	0.536 (0.433 – 0.639)	0.462
GGT	≥ 36	11.43%	88.55%	80.42%	10.53%	89.46%	0.582 (0.486 – 0.679)	0.110
CRP	≥ 0.5	97.50%	26.98%	34.38%	13.54%	98.92%	0.754 (0.679 – 0.829)	<0.001
Total bilirubin	≥ 1.2	25.00%	81.52%	75.59%	13.70%	90.26%	0.545 (0.443 – 0.646)	0.354

AUC: Area under the ROC curve; CI: confidence interval; NPV: negative predictive value; PPV: positive predictive value.

The logistic regression analysis was performed to determine significant markers to predict the presence of complicated appendicitis. Patients with high neutrophil percentages ($\geq 75.4\%$) had 2.313-fold higher risk of having complicated appendicitis compared with the others (OR = 2.313, 95% CI = 1.085–4.928, $p = 0.030$), and patients with high CRP levels (≥ 0.5) had 12.677-fold higher risk of having complicated appendicitis compared with the others (OR = 12.677, 95% CI = 1.710–93.987, $p = 0.013$). Other variables in the model, such as WBC counts ($p = 0.075$), monocyte percentages ($p = 0.974$), AST levels ($p = 0.719$), ALT levels ($p = 0.615$), ALP levels ($p = 0.642$), GGT levels ($p = 0.941$), and total bilirubin levels ($p = 0.840$), were found to be nonsignificant (Table 5).

Table 5. Significant predictive factors of complicated appendicitis, as revealed by multiple logistic regression analysis

	β coefficient	Standard error	Wald	p	Exp (β)	95.0% CI for β	
Neutrophil (\geq 75.4%)	0.838	0.386	4.720	0.030	2.313	1.085	4.928
CRP (\geq 0.5)	2.540	1.022	6.174	0.013	12.677	1.710	93.987
(Constant)	-4.951	1.035	22.887	<0.001	0.007		

Dependent variable: Complicated appendicitis; Nagelkerke $R^2 = 0.112$

CI: Confidence interval.

DISCUSSION

No specific marker exists for diagnosing acute appendicitis, and a thorough evaluation of the clinical, laboratory, and radiological findings of patients is required. A delay in the diagnosis of the disease may lead to appendiceal perforation and peritonitis. Portal sepsis and empyema develop because of complicated appendicitis, causing damage to hepatocytes and hyperbilirubinemia. Portal sepsis is associated with *Escherichia coli* and *Bacteroides fragilis* endotoxins, and their negative effects on bile flow may cause hepatocyte damage (8).

Al-Abed et al. reported that a majority of patients diagnosed with acute appendicitis were men. They found that WBC counts, neutrophil percentages, lymphocyte percentages, monocyte percentages, and AST, ALT, bilirubin, and CRP levels were higher and more significant in the positive appendicitis group compared with the negative appendicitis group. However, the clinical findings of the perforated appendix were more prominent, and hence Al-Abed et al. stated that the presence or absence of elevated bilirubin levels should not cause a

delay in treatment (9). Sand et al. reported that the bilirubin levels were higher in patients with perforated appendix than in those without perforation. They also stated that the specificity of the bilirubin level was quite high but its sensitivity was low compared with the WBC count and CRP level. The same study emphasized that a perforated appendix was more likely in patients with high bilirubin levels and could be an important cause of mortality (10). Another study reported that WBC count and CRP level were significant predictors of both acute and complicated appendicitis. In contrast, bilirubin was an essential predictor of complicated appendicitis, along with other predictors. In addition, WBC count had a sensitivity of more than 80% in both acute and complicated appendicitis, whereas CRP and bilirubin levels demonstrated higher specificity, especially for complicated appendicitis. This suggested that the diagnostic values of WBC count and CRP and bilirubin levels exhibited similar specificity and sensitivity in acute appendicitis (6). In the present study, the neutrophil percentage and CRP level tended to increase after complicated appendicitis. No significant difference was found between acute and complicated appendicitis in the analyses of total and direct bilirubin levels.

Emmanuel et al. found that hyperbilirubinemia was an essential marker for not only perforated appendix but also acute appendicitis. They also reported that the CRP level had 71% specificity, whereas hyperbilirubinemia had 88% specificity and 91% PPV in acute appendicitis. However, they reported that no clinical or laboratory test alone could predict acute appendicitis reliably and that a combination of medical history and clinical, laboratory, and radiological examinations should be used for diagnosis and treatment. (11). Similarly, Xharra et al. reported that the combination of CRP level, WBC count, and neutrophil percentage had higher diagnostic accuracy in acute appendicitis. The CRP level is not an appendicitis-specific biochemical parameter. Therefore, clinicians should rely on their own knowledge, laboratory tests, and imaging methods while diagnosing appendicitis. In addition, missed or delayed diagnosis was an essential factor in diagnosing complicated appendicitis (12). Yang et al. conducted a study with patients aged 60 years and older and reported a lower sensitivity of WBC count than neutrophil percentage and CRP level in standard reference ranges. The CRP levels are correlated with the severity of inflammation, and higher levels are recorded in more advanced diseases. However, a normal CRP level cannot exclude appendicitis, especially in the early phase of acute inflammation (13). In the present study, a majority of patients had been diagnosed with acute appendicitis and evaluated both clinically and using laboratory and imaging methods. Late diagnosis of acute appendicitis may increase the possibility of

developing complicated appendicitis. Therefore, combining laboratory parameters with ultrasonography/computed tomography in diagnostic procedures can be useful in diagnosing acute appendicitis and excluding other causes of abdominal pain.

This was a single-center, cross-sectional study. It was conducted with a small sample size and relied on the patient file data, limiting the generalizability of the findings.

Conclusions

Appendicitis is still a frequent cause of emergency surgical intervention. Although WBC count did not significantly differ between the groups in this study, the neutrophil percentage increased in patients with acute appendicitis. In addition, high CRP levels were associated with the severity of inflammation. No specific marker exists for acute appendicitis. Therefore, the clinical findings, biomarkers, and advanced imaging methods facilitate this challenging diagnosis in patients presenting to the emergency department with right lower quadrant pain.

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INVESTIGATION OF CLINICAL PROCESSES OF PATIENTS DIAGNOSED WITH NON-TRAUMATIC INTRACEREBRAL HEMORRHAGE HOSPITALIZED FROM EMERGENCY DEPARTMENT

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ABSTRACT

Introduction

Non-traumatic intracerebral hemorrhages constitute approximately 15-20% of all stroke cases. The aim of study, investigate the demographic data of patients with non-traumatic intracerebral hemorrhage, analysis of laboratory results in terms of inflammatory and bleeding parameters, the region of the brain and the type of bleeding, surgical requirements and in-hospital mortality.

Material Method

This retrospectively designed study included patients with non-traumatic intracerebral hemorrhage who were admitted to the Emergency Department of Nigde Omer Halisdemir University Training and Research Hospital as outpatients or by ambulance between January 1, 2023 and December 31, 2023.

Age, sex, presence of hypertension (HT), anticoagulant use, emergency room laboratory results, brain computed tomography (CT) results, hospitalization duration, treatment methods (surgical/medical) and hospital mortality were analyzed.

Results

The median value of albumin was lower in female patients compared to male patients ($p=0.004$). Patients with subdural hemorrhage were found to be more likely to undergo surgery and patients with thalamus hemorrhage were found to be less likely to undergo surgery ($p=0.005$). Occurrence of complications (ex) in patients who underwent surgical procedures was found to be higher than expected. The risk of complications (ex) in surgical patients is 4.6 times higher than in non-surgical patients. (Odds Ratio: 4.6, CI 95% [1.12-18.86], $p=0.034$)

Conclusion

In patients with non-traumatic intracerebral hemorrhage, inflammation markers taken in the acute period in the emergency department may be within normal limits and may not have a direct relationship with in-hospital mortality. In these patients, more thought should be given to the decision of surgical treatment and the benefit/loss ratio should be well analyzed in terms of survival.

Key words: Non-traumatic, Intracerebral, Hemorrhage, Emergency.

INTRODUCTION

Non-traumatic intracerebral hemorrhages constitute approximately 15-20% of all stroke cases (1). They are divided into two subgroups as primary and secondary. Primary intracerebral hemorrhages are caused by hypertension (HT) or amyloid angiopathy. Secondary intracerebral hemorrhages are due to another underlying cause such as bleeding diathesis, neoplasms, vascular malformations and conversion of ischemic stroke to hemorrhagic stroke (2). HT is the cause of more than 60% of primary bleeding. HT-induced hemorrhages are most commonly observed in the posterior fossa, pons, basal ganglion and thalamus (3). On the other hand subdural and subarachnoid hemorrhage is usually secondary to trauma in adults (4).

Hematoma formation in brain parenchymal tissue activates the inflammatory process and causes imbalance in hemostatic mechanisms (5). After acute hemorrhage, edema around the hemorrhage and swelling in the brain parenchymal tissue are observed with the effect of inflammatory cytokines and thrombin (6). The effects of the presence of inflammation after intracerebral hemorrhage on recovery in the subacute and chronic periods have not been fully clarified (7).

In this study, we aimed to investigate the demographic data of patients with non-traumatic intracerebral hemorrhage, analysis of laboratory results in terms of inflammatory and bleeding parameters, the region of the brain and the type of bleeding, surgical requirements and in-hospital mortality.

MATERIAL METHOD

This retrospectively designed study included patients with non-traumatic intracerebral hemorrhage who were admitted to the Emergency Department of Nigde Omer Halisdemir University Training and Research Hospital as outpatients or by ambulance between January 1, 2023 and December 31, 2023.

Computed tomography (CT) images of the brain of patients with diagnosis codes I67.9 (Cerebrovascular Disease), I69 (Sequelae of Intra Cerebral Hemorrhage), I60 (Subarachnoid Hemorrhage), R58 (Hemorrhage) were scanned through the hospital automation system Karmed.

Age, sex, presence of HT, anticoagulant use, emergency room laboratory results, brain CT results, hospitalization duration, treatment methods and hospital mortality were analyzed.

Patients under 18 years of age, patients with traumatic intracerebral hemorrhage, and cancer patients were excluded.

Statistical Analysis

Statistical data analysis was performed with Windows SPSS version 26.0 (IBM Corp., Armonk, NY, USA).

Categorical variables such as sex, history of HT and anticoagulant use, region of the brain (right, left, bilateral), type of bleeding (subdural, intraparenchymal, thalamus, cerebellar, basal ganglion, subarachnoid), treatment (surgical/medical) and hospital mortality status were presented as numbers and percentages.

Shapiro-Wilk test was applied to show whether the quantitative data were normally distributed. Age, leukocyte (WBC), prothrombin time (INR), C-reactive protein (CRP), albumin, neutrophils, lymphocytes, and length of hospitalization were given as median (Inter Quartile Range (IQR) 25-75) and platelet (PLT) value as mean \pm standard deviation.

Student's t-test was used to investigate the relationship between the normally distributed PLT value and categorical variables. Mann Whitney U test was used to investigate the relationship between categorical variables and other quantitative data that did not show normal distribution. Chi-square test was used to investigate whether there was a statistically significant relationship between categorical data and each other. In the comparison of categorical parameters between

living and deceased patients, only the surgical and medical treatment group was found to be statistically significant. Therefore, univariate binary regression analysis was used to calculate the risk of in-hospital mortality in surgically and medically treated patients. $p < 0.05$ was considered statistically significant.

RESULTS

Forty-five patients who met the study criteria were identified. Thirty-one (68.9%) patients were male and 14 (31.1%) were female. The median age was 74 years (IQR 63.5-83). In the background screening of the patients, 24 patients had HT (53.3%) and 20 patients (44.4%) were taking anticoagulant drugs. 27 patients [19 men, 8 women] had right-sided bleeding (60%), 15 patients [9 men, 6 women] had left-sided bleeding (33.3%) and 3 men had bilateral bleeding (6.7%). There were intraparenchymal hemorrhage in 14 patients (31.1%), subdural hemorrhage in 12 (26.7%), thalamus hemorrhage in 8 (17.8%), cerebellar hemorrhage in 6 (13.3%), basal ganglia hemorrhage in 3 (6.7%), and subarachnoid hemorrhage in 2 (4.4%). The median length of hospitalization was 8 (IQR 4.5-12). 12 patients [8 males, 4 females] died after hospitalization. The mortality rate in the study was 26.7% (Table 1).

Table 1. Display of descriptive data as numbers and percentages

Variables	Values	
Sex	Male, n (%)	31 (68.9)
	Female, n (%)	14 (31.1)
Age, median (IQR 25-75)	74 (63.5-83)	
HT	Yes, n (%)	24 (53.3)
	No, n (%)	21 (46.7)
Drug*	Yes, n (%)	20 (44.4)
	No, n (%)	25 (55.6)
Bleeding Area	Right, n (%)	27 (60)
	Left, n (%)	15 (33.3)
	Bilateral, n (%)	3 (6.7)
Type of Bleeding	Intraparenchymal, n (%)	14 (31.1)
	Subdural, n (%)	12 (26.7)
	Thalamus, n (%)	8 (17.8)

	Cerebellar, n (%)	6 (13.3)
	Basal ganglia, n (%)	3 (6.7)
	Subarachnoid, n (%)	2 (4.4)
	Length of hospitalization, median (IQR 25-75)	8 (4.5-12)
After hospitalization	Survival, n (%)	33 (73.3)
	Dead, n (%)	12 (26.7)

IQR: Inter quartile range, HT: The presence of hypertension, *: The use of anticoagulant medication

Subdural hemorrhage was most common in male patients, while intraparenchymal hemorrhage was most common in female patients. There was no statistically significant difference between gender and the region of the brain and types of bleeding ($p>0.05$).

The median age, WBC, PLT, INR, neutrophil/lymphocyte and CRP/albumin ratios in laboratory analyses were compared with the presence of HT, anticoagulant use, which part of the brain the bleeding occurred in and types of bleeding, whether surgery was performed or not and mortality and no statistically significant difference was found between the groups ($p>0.05$).

HT and anticoagulant use were found in 14 male patients and HT and anticoagulant use were found in 10 and 6 female patients, respectively. Surgical treatment was required in 13 (41.9%) male patients and 5 (35.7%) female patients. There was no statistically significant difference between gender and the presence of HT, anticoagulant use and the need for surgery ($p>0.05$).

While 19 of the patients with HT lived after bleeding, 5 of them died in the hospital. Among anticoagulant users, 16 lived after bleeding and 4 died. The effect of the presence of HT and anticoagulant use on the exiting status was not found to be statistically significant ($p>0.05$).

The median value of albumin was lower in female patients compared to male patients ($p=0.004$) (Figure 1).

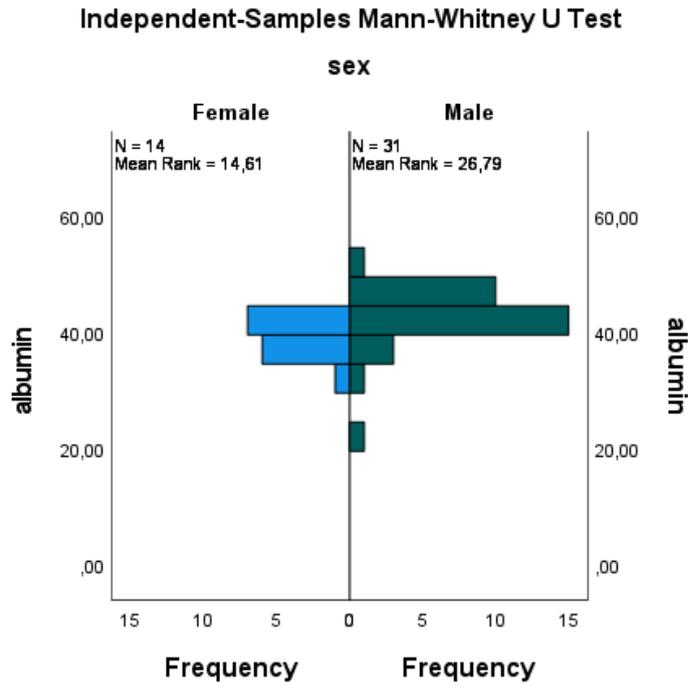


Figure 1. Correlation between sex and albumin levels, $p=0.004$

Patients with subdural hemorrhage were found to be more likely to undergo surgery and patients with thalamus hemorrhage were found to be less likely to undergo surgery ($p=0.005$) (Table 2).

Table 2. Expected and observed treatment situations in subdural and thalamus hemorrhage

		Treatment		p*
		Surgery	Medical	
Type of Bleeding	Subdural	Observed	8	0.005
		Expected	4.8	
	Thalamus	Observed	0	
		Expected	3.2	

* Chi-square test

Occurrence of complications (ex) in patients who underwent surgical procedures was found to be higher than expected. The risk of complications (ex) in surgical patients is 4.6 times higher than in non-surgical patients. (Odds Ratio: 4.6, CI 95% [1.12-18.86], p=0.034) (Table 3).

Table 3. Risk of death among those who received surgical treatment and medical treatment

Variables	B	Exp (B)	%95 CI exp (B) Lower-Upper	p-value
Risk of death Surgery (Medical*)	1.526	4.6	1.12-18.86	0.034
Constant	-1.749	0.174		0.01

*Reference

DISCUSSION

Most studies on intracerebral hemorrhage aim to investigate risk factors and other underlying causes in addition to epidemiologic and demographic data. In this way, new therapeutic and preventive strategies can be developed (8). The state of being physically incomplete in individuals who survive after hemorrhage will also bring psychiatric problems. We think that intracerebral hemorrhage is one of the leading health problems that should be addressed in terms of being both an individual and a social problem.

Non-traumatic intracerebral hemorrhage is more common in the male sex and increases with age (9). The number of males in our study was more than twice the number of females. The median age of our patients was approximately 75 years and our demographic data were found to be compatible with the literature. This may be explained by the fact that the vascular structures of the brain become more fragile with increasing age.

HT and anticoagulant use are the main risk factors for non-traumatic intracerebral hemorrhage. Although HT seems to have been controlled with increased use of antihypertensive drugs in recent years, the incidence of anticoagulant-related bleeding has increased with increased anticoagulant use (10). In the study, more than half of the patients were HT patients, while the

rate of anticoagulant (especially warfarin) use was approximately 45%, which is not to be underestimated. Since both conditions are controllable risk factors, it can be concluded that the incidence of intracerebral hemorrhage due to HT and anticoagulant use can be further reduced with conscious and regular drug use.

Intracerebral hemorrhage is usually classified clinically as lobar or deep according to localization (11). Non-traumatic intracerebral hemorrhages are usually intraparenchymal hemorrhages that rarely spread to the subarachnoid region and may or may not open into the ventricles (12). However, studies on which part of the brain and which type of hemorrhage intracerebral hemorrhages occur are limited (13). Most hypertension-related hemorrhages are deep and intraparenchymal (14). In this study, most of the non-traumatic brain hemorrhages occurred on the right side of the brain and the most common type of hemorrhage was intraparenchymal hemorrhage. This may be due to the fact that most of the cases were HT patients. The least common bleeding type was SAH. Our data support the view that SAH is mostly caused by trauma.

Oxidative stress and inflammation exacerbate neuronal damage after intracerebral hemorrhage. Elevated WBC, neutrophil/lymphocyte ratio, CRP, CRP/albumin are associated with poor prognosis and increased mortality (15,16). Despite the high mortality rate in the study, inflammation biomarkers were not found to be high. Since the study was performed retrospectively, the data of some patients could not be accessed and the repetitions of inflammation biomarkers were not obtained in some patients. The available data are the values taken at the time of emergency department admission, and an increase in inflammation markers may have been detected during the hospital follow-up process. This is one of the main limitations of this study. In addition, the small number of patients may also explain our inconsistent results with the literature.

There are studies showing that low albumin levels are associated with in-hospital mortality. However, there is no significant albumin cut-off value accepted for intracerebral hemorrhage (17,18). The number of males who died in the study was twice the number of females. Albumin levels were found to be lower in female patients compared to male patients. Although this difference was found to be statistically significant, it does not comply with the motto that in-hospital mortality and low albumin levels are directly proportional. In this context, new studies with more patient participation are needed.

Since the benefit/harm ratio of surgical treatment cannot be clearly evaluated, the treatment of supratentorial intracerebral hemorrhages is usually performed conservatively. It would be healthier for both the patient and the physician if the decision for surgical treatment is made after joint consultation with family members (19). In the present study, burr hole and decompressive craniotomy were performed as surgical treatment. The main aim of surgical interventions is to reduce intracranial pressure by drainage of the hematoma and decompression. Since thalamus hemorrhages are deeply localized, medical treatment was mostly preferred. In subdural hemorrhages, on the other hand, surgical treatment was applied more than expected because they were closer to the cranium. However, the risk of death in patients who underwent surgical treatment in the study was 4.6 times higher than in the group that received medical treatment. When the presence of hemorrhage, the geriatric population and the presence of extra comorbid conditions other than hemorrhage are added to the presence of hemorrhage, we think that surgical treatment alone cannot be associated with the risk of death. In this context, we believe that prospective studies will be more useful in confirming our results.

CONCLUSION

In patients with non-traumatic intracerebral hemorrhage, inflammation markers taken in the acute period in the emergency department may be within normal limits and may not have a direct relationship with in-hospital mortality. In these patients, more thought should be given to the decision of surgical treatment and the benefit/loss ratio should be well analyzed in terms of survival.

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Impact of Clinical and Laboratory Factors on Hospital Length of Stay in Very Elderly Patients with Community-Acquired Pneumonia: A Single-Center Study

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ABSTRACT

Introduction and Purpose: The aim of this study was to evaluate the effect of clinical and laboratory values on the length of hospitalization in community-acquired pneumonia (CAP) in very elderly patients.

Material and Methods

The study analyzed the demographic, clinical, and laboratory data of patients aged ≥ 85 years admitted to the emergency department (ED) of Niğde Ömer Halisdemir Training and Research Hospital between 01/09/2022 and 01/09/2023, diagnosed with CAP, and transferred to wards. Data was accessed digitally through the hospital automation system (Karmed). Index calculations included CRP to albumin ratio (CAR), platelet to lymphocyte ratio (PLR), neutrophil to lymphocyte ratio (NLR), and hemoglobin-albumin-lymphocyte-platelet (HALP) score. Data were analyzed using SPSS 27 with appropriate tests (descriptive statistics, chi-square test, t-test, and correlation analysis), and statistical significance was determined at $p < 0.05$.

Results

The study included 76 patients who met the inclusion criteria. The number of patients with ≥ 3 comorbid diseases was 46 (60.5%) and the number of patients with < 3 comorbid diseases was 30 (39.5%). 42 patients (55.3%) were hospitalized for seven days or less and 34 patients (44.7%) were hospitalized for more than seven days. The mean duration of hospitalization was 7.37 days \pm 3.36 (min: 1, max: 15). The length of hospitalization of patients with ≥ 3 comorbid diseases was found to be higher and statistically significant compared to patients with < 3 comorbid diseases ($p = 0.011$). The PLR and HALP scores of individuals hospitalized for ≤ 7

days differed significantly from those of patients hospitalized for ≥ 7 days ($p= 0.001$), but no statistically significant difference was observed in NLR and CAR levels ($p= 0.055$ and $p= 0.259$, respectively).

Conclusion

The findings revealed that patients with a higher number of comorbid diseases had significantly longer hospital stays. Moreover, PLR, and HALP scores were associated with prolonged hospitalization, whereas no significant correlation was observed with NLR and CAR levels. These results underscore the importance of considering both clinical and laboratory factors in managing CAP in very elderly individuals, potentially aiding in optimizing treatment strategies and resource allocation to improve patient outcomes.

Keywords: Community-acquired pneumonia; Comorbidity; Laboratory parameters; Length of hospitalization; Very elderly patient

INTRODUCTION

Community-acquired pneumonia (CAP) is a prevalent and potentially serious respiratory infection caused by various pathogens acquired in the community (1). Elderly individuals are more susceptible to CAP due to factors such as incompetent immunity, decreased mucociliary function, cardiopulmonary dysfunction, and comorbidities (2). Early recognition of CAP in the elderly is crucial as it can present diagnostic challenges and lead to delays in appropriate interventions (3). Risk factors affecting the length of hospitalization for community-acquired pneumonia (CAP) in elderly patients include reduced functional capacity, residence in long-term care facilities or nursing homes, obesity, chronic medical conditions, recent respiratory tract infections, immunosuppressive medications, drowsiness on admission, low oxygen saturation levels, malnutrition, and the presence of parapneumonic pleural effusion (4). Additionally, factors such as the initial antimicrobial regimen, clinical failure, and mortality rates can influence the duration of hospitalization in elderly patients with CAP (5).

However, there is limited information on the inflammatory and immunonutritional indices that influence the length of hospital stay of patients hospitalized with CAP in a very elderly patient population over 85 years of age

This study aimed to evaluate the effect of clinical and laboratory values on the length of hospitalization of patients with community-acquired pneumonia (CAP).

MATERIAL AND METHODS

Study design and patient selection

The study was designed in a retrospective manner. Demographic, clinical and laboratory data of the patients were analyzed. Patient data were accessed digitally through the hospital automation system (Karmed) and through physical patient files. Demographic and clinical data included age, gender, comorbidity status and number of comorbidities, and length of hospitalization. In the laboratory, hemogram (white blood cell (WBC, x103/mL), neutrophil (x103/mL), lymphocyte (x103/mL), hemoglobin (g/dL), and platelet (x103/mL); biochemistry (alanine aminotransferase (ALT, U/L), aspartate aminotransferase (AST, U/L), urea (mg/dL), creatinine (mg/dL), C-reactive protein (CRP, mg/dL), and albumin (g/L) were recorded.

Index calculations

CRP to albumin ratio (CAR): CRP to albumin ratio; platelet to lymphocyte ratio (PLR): platelet to lymphocyte ratio; neutrophil to lymphocyte ratio (NLR): neutrophil to lymphocyte ratio. HALP: Calculated by the formula [hemoglobin (g/L) x albumin x lymphocytes] / platelets.

Inclusion and exclusion criteria of the study

This study included all patients aged 85 years and older who were admitted to the emergency department of Niğde Ömer Halisdemir Training and Research Hospital between 01/09/2022 and 01/09/2023 with a final diagnosis of CAP and hospitalized in the ward. Patients under 85 years of age, patients whose data were not clearly available, patients whose main diagnosis was not pneumonia, patients who were admitted to the intensive care unit, and patients who were admitted to the ward via outpatient clinic were excluded from the study.

Statistics Analysis

All data were entered into Excel (Microsoft Office 2010, Redmond, WA, USA) and statistical analyses were performed using SPSS (IBM SPSS Statistics Version 27, SPSS Inc., Chicago,

IL). In descriptive statistics related to research data, categorical variables were expressed as numbers and percentages; continuous data were expressed as mean \pm standard deviation (SD) or median (minimum-maximum). Shapiro Wilk test was performed to test whether continuous quantitative data were normally distributed. Pearson correlation or Spearman rho correlation analysis was used to determine the relationship between quantitative data. Chi-square analysis was performed to evaluate the relationship between categorical variables and length of hospital stay. For this purpose, patients admitted to the ward were categorized into two groups in terms of length of stay (group 1: ≤ 7 days, group 2: > 7 days) and number of comorbidities (group 1: < 3 , group 2: ≥ 3). Appropriate tests were used to compare the means of quantitative variables affecting mortality between these groups (independent samples t test, Mann Whitney U test). A value of $P < 0.05$ was considered statistically significant.

RESULTS

The study included 76 patients who met the inclusion criteria. The number of patients with ≥ 3 comorbid diseases was 46 (60.5%) and the number of patients with < 3 comorbid diseases was 30 (39.5%). 42 patients (55.3%) were hospitalized for seven days or less and 34 patients (44.7%) were hospitalized for more than seven days. The mean duration of hospitalization was 7.37 days \pm 3.36 (min: 1, max: 15). The length of hospitalization of patients with ≥ 3 comorbid diseases was found to be higher and statistically significant compared to patients with < 3 comorbid diseases ($p = 0.011$). This relationship was given in the Table 1.

Table 1. Association of LOS according to the number of comorbid diseases

Number of comorbidity	LOS,day Mean (SD)	Total n=76	<i>p-value*</i>
< 3	6.17 (3.56)	30	0.011
≥ 3	8.15 (3.01)	46	

Abbreviations: LOS, length of stay; SD, standard deviation

* t-test

The PLR and HALP scores of individuals hospitalized for ≤ 7 days differed significantly from those of patients hospitalized for ≥ 7 days ($p= 0.001$), but no statistically significant difference was observed in NLR and CAR levels ($p= 0.055$ and $p= 0.259$, respectively). These results are shown in the Table 2.

Table 2. Association of patients' LOS with inflammatory and immunonutritional indexes.

Variables	LOS, day	n (total=76)	Mean	SD	Mean rank	<i>p-value*</i>
NLR	≤ 7	42	7.09	5.24	34.12	0.055
	>7	34	11.67	10.55	43.91	
PLR	≤ 7	42	181.44	89.98	31.12	0.001
	>7	34	273.84	163.92	47.62	
HALP	≤ 7	42	30.64	16.86	45.83	0.001
	>7	34	21.40	15.46	29.44	
CAR	≤ 7	42	2.56	2.12	35.93	0.259
	>7	34	3.22	2.46	41.68	

Abbreviations: LOS, length of stay; NLR, neutrophil-to-lymphocyte ratio; PLR, platelet-to-lymphocyte ratio; HALP, hemoglobin-albumin-lymphocyte-platelet; CAR, C-reactive protein-to-albumin ratio; SD, standard deviation

* Mann-Whitney-U

DISCUSSION

The presence of chronic comorbidities has consistently been identified as a significant predictor of mortality and adverse outcomes in elderly patients with CAP. Adverse outcomes in elderly patients with CAP are significantly predicted by the presence of chronic comorbidities, which highlights the importance of comprehensive geriatric assessment and effective management strategies for this population (6). Research has indicated that the stacking of comorbidities is associated with worse short- and long-term prognoses in patients over 50 years of age hospitalized with CAP (7). Similar to the literature, a statistically significant correlation was found between an increasing number of comorbidities and prolonged hospitalization in our

study. On the other hand, it is important to consider that some patients with CAP may require longer hospital stays due to the severity of their illness, and may not necessarily have more comorbidities than those who are hospitalized for a shorter period of time. The HALP score and PLR have been identified as valuable prognostic indicators for various medical conditions, including pneumonia, in elderly patients. Studies have shown that the HALP score, reflecting nutritional and inflammatory status, can predict mortality and outcomes in patients with different diseases, including pneumonia (8-10). Additionally, PLR, which is a marker of systemic inflammation, has been associated with poor prognosis in various medical conditions, indicating its potential relevance in predicting outcomes in elderly patients with pneumonia (11). These scores provide valuable insights into the inflammatory and nutritional status of patients, aiding risk stratification and prognostication in elderly individuals with pneumonia. In our study, patients with CAP who were hospitalized for more than seven days had significantly higher PLR and lower HALP scores.

CONCLUSION

The findings revealed that patients with a higher number of comorbid diseases had significantly longer hospital stays. Moreover, PLR, and HALP scores were associated with prolonged hospitalization, whereas no significant correlation was observed with NLR and CAR levels. These results underscore the importance of considering both clinical and laboratory factors in managing CAP in very elderly individuals, potentially aiding in optimizing treatment strategies and resource allocation to improve patient outcomes.

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Introduction

Road traffic accidents (RTAs) represent a global public health challenge, inflicting a substantial burden on societies and healthcare systems. While much attention has been directed towards understanding and mitigating the impact of RTAs, a specific subset of this phenomenon demands closer examination accidents involving infants and toddlers, the most vulnerable members of our communities. The vulnerability of this age group stems from their developmental stage, limited mobility, and dependency on caregivers. As such, comprehending the epidemiology and outcomes of RTAs among infants and toddlers is paramount for tailoring effective preventive strategies.

The existing literature has extensively explored the broader landscape of RTAs, emphasizing the disproportionate impact on pediatric populations. However, the nuances of incidents involving infants and toddlers, aged from birth to 2 years, remain relatively underexplored. This preliminary study seeks to fill this gap by providing a focused investigation into the characteristics, patterns, and consequences of RTAs within this specific age cohort. This research aims to contribute valuable insights that extend beyond the general pediatric population, addressing the unique challenges posed by accidents affecting those in their earliest stages of development.

Material and Methods

Study design and setting: This retrospective, single-center, observational, and cross-sectional study was conducted in the Emergency Department (ED) of a university-affiliated training and research hospital in Muğla, Turkey. Data were collected from consecutive infant and toddler patients admitted to the ED via ambulance between July 1, 2019, and July 1, 2023.

Selection of participants: All children aged 0-2 years who were involved in an RTA were included in our study, while those older than 2 years were excluded. Both patients with missing data and those transferred to another hospital were excluded from the analysis

Data collection: The compilation of data was meticulously conducted using a standardized spreadsheet to ensure systematic and precise assimilation of relevant parameters. Upon admission to the ED, essential metrics including age and sex were scrupulously recorded. Furthermore, the gathering of ancillary data involved obtaining laboratory test outcomes from

the ED, final in-patient diagnoses, and distinct outcome variables such as the requirement for admission, hospital Length of Stay (LOS), and all-cause mortality. Importantly, the initial Pediatric Trauma Score (PTS) was systematically calculated for each patient.

Statistical analysis: The normality of data distribution was checked with the Kolmogorov-Smirnov test. Continuous variables were expressed as mean \pm standard deviation (SD) or median (IQR) according to normal or nonnormal distributions. Categorical variables were presented as absolute values and percentages. Differences in continuous variables were evaluated by the Mann-Whitney *U* test, and categorical variables were compared using the Pearson χ^2 test. For all tests, $P > .05$ was considered statistically significant. All analyses were performed using SPSS version 21.0 statistical software (SPSS Inc., Chicago, Illinois).

Results

During the designated study period, a total of 528,364 patients sought emergency care, among whom 4,980 cases (0.94%) were attributed to RTAs. Within this subset of RTAs, 659 cases (13.24%) involved pediatric trauma patients, defined as individuals under the age of 17. Furthermore, 41 cases (0.8%) specifically pertained to children under the age of 2. The distribution of patients across age groups was as follows: 0 (0%) in the neonate group, 18 (43.9%) in the infant group, and 23 (56.1%) in the toddler group. Our study focused on a cohort of 41 infant and toddler patients with a mean age of 12.98 ± 5.64 months (range: 3 to 24 months) and 27 (65.9%) were boys. The median PTS for all 41 patients was 9 (IQR: 5-12).

Injuries were attributed to various mechanisms, with motor vehicle accidents representing the predominant cause, accounting for 38 cases (92.6%). Motorcycle accidents were responsible for an additional 2 cases (4.8%), while pedestrian-vehicle collisions accounted for 1 case (2.6%) of the injuries. The diagnostic management of the patients revealed that nearly all ($n:38, 92.6\%$) underwent an extended focused assessment with sonography in trauma (eFAST). Plain X-rays were conducted in 10 (24.3%) of cases, while computed tomography scans, primarily for suspected head injuries, were performed in 21 (51.2%) of cases, respectively. Early Magnetic Resonance Imaging scans did not play a role in the initial management of patients in the ED. Of these patients, 2 had femur fractures, 1 had a subdural hematoma, 1 had an orbital roof fracture, 2 had extensive scalp hematomas, 1 had a lung contusion, and 2 exhibited vital abnormalities, totaling 9 (21%) patients hospitalized. Only 1 patient required surgical intervention, specifically for a femur shaft fracture. For secondary outcomes, the study cohort

included only 1 patient admitted to the pediatric ICU, with a mean length of stay (LOS) in the hospital of 4.7 ± 2.9 days. No in-hospital deaths occurred among any of the patients.

Discussion

The findings of this preliminary study shed light on the often-overlooked subset of RTAs involving infants and toddlers, aged from birth to 2 years. Our investigation underscores the significance of understanding the epidemiology and outcomes of RTAs in this vulnerable age group, given their developmental stage, limited mobility, and dependence on caregivers. While existing literature has extensively explored RTAs in the pediatric population, the nuances of incidents involving infants and toddlers remain relatively underexplored. Our study addresses this gap by providing focused insights into the characteristics, patterns, and consequences of RTAs within this specific cohort.

The observed distribution of RTAs among infants and toddlers highlights the pressing need for targeted preventive strategies. Motor vehicle accidents emerged as the predominant cause of injuries in our study, emphasizing the importance of interventions aimed at improving road safety and reducing vehicular hazards. Additionally, the utilization of diagnostic modalities such as eFAST and CT scans underscores the complexity of managing RTAs in this age group. These findings underscore the critical role of early and accurate diagnosis in guiding appropriate treatment and optimizing outcomes for infant and toddler patients involved in RTAs.

Furthermore, the outcomes observed in our study cohort provide valuable insights into the clinical course and management of RTAs among infants and toddlers. While the majority of patients did not require hospitalization, a notable proportion exhibited significant injuries necessitating further medical intervention. The absence of in-hospital deaths among our study population is reassuring; however, it is imperative to recognize the potential long-term consequences of RTAs in this vulnerable age group, including physical, cognitive, and emotional sequelae. Future research endeavors should focus on longitudinal follow-up studies to elucidate the full spectrum of outcomes and inform comprehensive rehabilitation strategies tailored to the unique needs of infant and toddler survivors of RTAs.

Despite the valuable insights provided by our study, several limitations warrant consideration. Firstly, the retrospective nature of the study design may have introduced selection bias and hindered the comprehensive capture of all relevant data. Secondly, the reliance on a single-

center setting limits the generalizability of our findings to broader populations with varying demographic and geographic characteristics. Thirdly, the relatively small sample size of infants and toddlers involved in RTAs within the study period may have restricted the statistical power and precision of our analyses. Additionally, the exclusion of patients with missing data or those transferred to other facilities may have influenced the representativeness of our study cohort. Lastly, the absence of long-term follow-up data precludes a comprehensive assessment of the sustained impact and outcomes of RTAs among infants and toddlers beyond the acute care setting. Furthermore, our study is limited by the absence of pre-hospital mortality data, which may affect the comprehensive understanding of the overall outcomes of RTAs involving infants and toddlers.

Conclusions

In conclusion, our preliminary study underscores the importance of recognizing and addressing the distinct challenges posed by RTAs among infants and toddlers. By elucidating the epidemiology, patterns, and outcomes of such accidents, we aim to inform evidence-based preventive measures and optimize the management of RTAs in this vulnerable population. Moving forward, interdisciplinary collaboration, comprehensive surveillance systems, and targeted interventions are paramount in mitigating the burden of RTAs and safeguarding the well-being of infants and toddlers worldwide.

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İdiyopatik Trombositopenik Purpura

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Özet

Giriş

İdiyopatik Trombositopenik Purpura yeni adıyla immün trombositopeni hastalığı, otoimmün mekanizmalar ile trombosit yıkımının artışı ve yapımının bozulması ile karakterize bir hastalıktır. Hastalar genelde ani başlayan yaygın döküntüler ve mukozal kanamalar ile hastaneye başvururlar. Hastalık daha çok çocuk yaş grubunda görülür. Burada ise ileri yaş bir olgu anlatılacaktır.

Olgu

83 yaşında erkek hasta acil servise iki gündür vücudunda oluşan döküntüler nedeniyle başvurdu. Muayenesinde tüm vücutta yaygın peteşi ve purpurik döküntüler ve ağız içinde purpurik lezyonlar izlendi. Hastanın bir hafta önce gribal enfeksiyon geçirdiği öğrenildi. Hipertansiyon, diyabet, kalp yetmezliği, koroner arter hastalığı, stent ve bypass öyküleri olan hastanın asetil salisilik asit ve klopidogrel kullanımı mevcut. Yapılan laboratuvar testlerinde platelet sayısı $5000 \cdot 10^3/\mu\text{L}$ ölçüldü. Hastanın sonucu periferik yayma ile doğrulandı. İdiyopatik Trombositopenik Purpura (İTP) ön tanısı ile dahiliyeye konsülte edildi ve hematoloji servisi yatırıldı.

Tartışma

Çocuklarda akut seyreden ve genelde kronikleşmeyen İTP erişkinde ise genelde sinsi başlangıçlı ve kronik seyreder. Hastalığın ayırıcı tanısında trombositopeni yapabilecek enfeksiyonlar, aşılarda kanserler ve otoimmün diğer durumlar dışlanmalıdır. Tedavisinde koagülasyonu ve hemostazı bozabilecek ilaçlar kesilmeli, hastaya yüksek doz steroid,

İntravenöz İmmünglobülin (İVİG) ve gerekirse splenektomi yapılmalıdır. Tedavi cevabını değerlendirmede trombosit sayısı ve klinik iyileşme dikkate alınır ve yaşlı hastalarda kronikleşme oranı yüksek olduğu için takipte tutulmalıdır.

Sonuç

İTP trombosit düşüklüğü ile giden vücutta döküntülere ve kanamalara yol açabilen bir hastalıktır. Tanıya hızlıca gidebilmek için trombosit düşüklüğü yapabilecek ve döküntüye neden olabilecek durumlar dışlanmalı, hastadan detaylı bir özgeçmiş alınmalı, kanama durumu olup olmadığını anlamak için detaylı fizik muayene yapılmalıdır. Böylece hızlıca tedavisine başlayabiliriz.

Anahtar Kelimeler: İmmun trombositopeni, peteşi, İVİG

Idiopathic Thrombocytopenic Purpura

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Abstract

Introduction

Idiopathic Thrombocytopenic Purpura, now known as immune thrombocytopenia disease, is a disease characterized by increased platelet destruction and impaired production by auto immune mechanisms. Patients generally present to the hospital with sudden onset of widespread rashes and mucosal bleeding. The disease is mostly seen in the childhood age group. Here, an elderly case will be explained.

Case

An 83-year-old male patient was admitted to the emergency department due to rashes that had been occurring on his body for two days. On examination, widespread petechiae and purpuric rashes all over the body and purpuric lesions in the mouth were observed. It was learned that the patient had a flu infection a week ago. The patient has a history of hypertension, diabetes, heart failure, coronary artery disease, stent and bypass, and uses acetylsalicylic acid and clopidogrel. In laboratory tests, the platelet count was measured as $5000 \times 10^3/\mu\text{L}$. The patient's result was confirmed by peripheral smear. With the preliminary diagnosis of ITP, internal medicine was consulted and he was admitted to the hematology service.

Discussion

ITP, which is acute and generally does not become chronic in children, usually has an insidious onset and a chronic course in adults. In the differential diagnosis of the disease, infections, vaccines, cancers and other autoimmune conditions that may cause thrombocytopenia should be excluded. In the treatment, drugs that may disrupt coagulation and hemostasis should be discontinued and the patient should receive high-dose steroids, IVIG and, if necessary, splenectomy. Platelet count and clinical improvement are taken into account when evaluating treatment response, and elderly patients should be followed up since the rate of chronicity is high.

Conclusion

ITP is a disease that causes low platelet count and can lead to rashes and bleeding in the body. In order to reach a diagnosis quickly, conditions that may cause low platelet count and rash should be excluded, a detailed medical history should be taken from the patient, and a detailed physical examination should be performed to understand whether there is bleeding, so that we can start treatment quickly.

Keywords: Immune Thrombocytopenia, petechiae, IVIG

GİRİŞ

İdiyopatik Trombositopenik Purpura otoimmün mekanizmalar ile trombosit yıkımının artışı ve yapımının bozulması ile karakterize bir hastalıktır. Günümüzde immün trombositopeni olarak adlandırılır. İTP için kesin bir klinik veya laboratuvar bulgusu yoktur genellikle diğer organik patolojiler dışlandıktan sonra tanı konulabilmektedir.

İmmun trombositopeni genellikle çocuklarda bir enfeksiyon veya aşılama sonrası akut başlangıçlı görülür, genelde kronikleşmeden düzelir. Yetişkinlerde ise başlangıç sinsi olmakla beraber kronikleşme eğilimindedir.

Trombositopeni erişkinlerde genelde altta yatan bir nedene bağlı olarak ortaya çıkar. Bu nedenlere baktığımızda sistemik lupus eritematozis, antifosfolipit antikor sendromu gibi otoimmün hastalıklar, HBV, HCV, HIV, EBV gibi kronik viral enfeksiyonlar, ilaçlar, solid tümörler, gebelik ve lenfoproliferatif hastalıklar gibi örnekler verilebilir. Bazı durumlarda ise bir nedene bağlı olmaksızın trombositopeni gelişebilir. Bu duruma primer trombositopeni denir.

Tedavisinde nedeni ortadan kaldırdıktan sonra kortikosteroid, IVIG, splenektomi, anti-CD20 monoklonal antikorları (rituksimab), anti-Rh antikorlar yanı sıra refrakter olgularda TPO (trombopoetin) mimetikler, azatiyopirin, siklosporin gibi ajanlar uygulanabilir.

OLGU

83 yaşında erkek hasta acil servise iki gündür vücudunda oluşan döküntüler nedeniyle başvurdu. Muayenesinde tüm vücutta yaygın peteşi ve purpurik döküntüler ve ağız içinde purpurik lezyonlar izlendi. Nörolojik muayenesi doğal, batin muayenesi doğaldı. Hemoptizi, hematüri, gastrointestinal kanama bulguları ve organomegali yoktu. Vital bulguları tansiyon arteriyel 150/90 mmHg, oda havasında oksijen saturasyonu %98, nabız 87 atım/dk, ateş 36.6 °C olarak ölçüldü. Hastanın bir hafta önce gribal enfeksiyon geçirdiği öğrenildi. Hipertansiyon, diyabet, kalp yetmezliği, koroner arter hastalığı, stent ve bypass öyküleri olan hastanın asetilsalisilik asit ve klopidogrel kullanımı mevcut. Yapılan laboratuvar incelemesinde lökosit:8.76 $10^3/\mu\text{L}$ hemoglobin:13.7 g/dL trombosit:5 $10^3/\mu\text{L}$ laktat dehidrojenaz:175 U/L nr:1.03 kreatin:0.91 mg/dL üre:36 mg/dL glukoz:186 mg/dL alanin aminotransferaz:10 U/L aspartat aminotransferaz:11 U/L Total bilirubin:2.01 mg/dL, Direk bilirubin:0.30 mg/dL olup olan hastanın platelet sayısı periferik yaymada 10000 $10^3/\mu\text{L}$ ölçüldü ve şişosit, döhle cisimleri gibi yapılara rastlanmadı. Trombositopeni doğrulandı. İTP ön tanısı ile dahiliyeye konsülte edildi ve hematoloji servisi yatışı yapıldı.

Hastanın tedavisinde ilk dozu acil serviste başlanılarak dört gün boyunca 40mg deksametazon ve dört günlük tedavi bitiminde, iki gün boyunca 60g İVİG verildi. Kullandığı klopidogrel ve asetilsalisilik asit kanamaya yatkınlık oluşturacağı için kesildi.

Hastanın servis takibinde günlük hemogram ve biyokimya takibi yapıldı. Acil servisten itibaren günlük platelet sayısı $5000 \times 10^3/\mu\text{L}$ - $3000 \times 10^3/\mu\text{L}$ - $9000 \times 10^3/\mu\text{L}$ - $36000 \times 10^3/\mu\text{L}$ - $87000 \times 10^3/\mu\text{L}$ - $148000 \times 10^3/\mu\text{L}$ - $198000 \times 10^3/\mu\text{L}$ olarak ölçüldü.



Şekil 1. Vücutta ve mukozada yaygın peteşi ve purpura

Tartışma

İTP trombositopeni ile seyreden otoimmün mekanizma ile gelişen bir hastalıktır. Başvuruda olgumuzda olduğu gibi genelde döküntüler ve kanama ön plandadır. Çocukluk çağında sık görülmekle beraber kronikleşmez, yaşlı olgularda ise kronikleşme eğilimi fazladır. Süreçlere göre incelediğimizde yeni tanı konmuş İTP, tanıdan itibaren ilk 3 aylık dönemdir. Persistent İTP tanıdan itibaren 3-12 aylarda olup spontan remisyona girmeyen veya tedavi kesildiğinde remisyonda kalamayan olguları kapsar. Kronik İTP 12 ay veya daha fazla süren İTP olgularıdır. Cevap için mutlaka klinik bulguların düzelmesi gereklidir. Tam cevap denebilmesi için trombosit sayısının >100000 $10^3/\mu\text{L}$ olması gereklidir. Trombosit sayısı $30000-100000$ $10^3/\mu\text{L}$ arasında olan veya başlangıç trombosit sayısının en az 2 katına ulaşmış olgular cevaplı olarak adlandırılır.

Tam kan sayımında izole trombositopeni görülmektedir. Koagülasyon ve biyokimyasal testler genelde normaldir. Hastada trombositopeninin doğrulanması için periferik yayma yapılmalıdır. Periferik yaymada yalancı trombositopeni varlığı, şistositler, eritrosit ve lökosit displazileri olmamalıdır. Diğer yönden trombositopeninin nedeni olabilecek viral hastalıklar (HBV, HCV, HIV) dışlanmalıdır. Kronikleşen olgularda sistemik lupus eritematozis, antifosfolipit antikor sendromu, solid tümörler için detaylı araştırma yapmak gerekebilir.

Tedavide amaç klinik bulguları düzeltmek ve kanama olmayacak bir trombosit sayısına ulaşmaktır. İlk seçenek kortikosteroidlerdir (0.5-2 mg/kg metil prednizolon, 40 mg/gün deksametazon). Eğer İTP hastasında birinci basamakta kortikosteroid kullanımına kontrendikasyon varsa, hasta Rh-pozitif ise, hastada otoimmün hemolitik anemi (Evans sendromu) yok ise ve daha önce splenektomi yapılmadıysa Anti-(Rh) D tedavisi kullanılabilir. Hızlı cevap veren bir diğer tedavi İVİG verilmesidir (1 g/kg/1-2 gün). Ağır kanamalı, acil doğum ya da operasyon gerektiren durumlar hariç trombosit süspansiyonu verilmesi önerilmez çünkü otoantikörlerle verilen trombositler yıkılacaktır. Acil cevap için kortikosteroid ve İVİG tedavisinin beraber kullanıldığı bir protokol uygulanabilir.

Bu tedavilere cevap yoksa splenektomi yapılmalıdır. Kontrendikasyon varlığında rituksimab (anti CD-20) uygulanabilir.

Son yıllarda refrakter ITP tedavisinde bir seçenekte TPO reseptör agonistleridir. Bunun dışında azatioprin, siklosporin, siklofosamid, danazol, mikofenolat mofetil gibi tedavilerde kullanılabilir.

Sonuç

İTP acil servise döküntü ve kanama şikayetiyle başvuran hastalarda aklımıza gelmeli yalnız çocuklarda değil yaşlı popülasyonda da görülebileceği unutulmamalıdır. Hızlıca tanıya gidebilmek için hastadan detaylı anamnez alınmalı ve fizik muayenede kanama odağı olup olmadığı detaylıca araştırılmalıdır. Kanama yapabilecek ilaçlar kesilmeli ve hızlıca tedaviye başlanması sağlanmalıdır.

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Relationship between inflammation markers and ketonuria in hospitalized HEG cases

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Introduction-aim: Hyperemesis gravidarum (HEG) is a medical condition that typically begins during the early stages of pregnancy and is characterized by difficulties in consuming food orally, disturbances in electrolyte levels, the presence of ketones in urine, and significant weight loss(1) Its frequency varies between 0.3-3% (2). Although its pathophysiology is not clear, psychological factors, hormonal changes, abnormal gastric motility, helicobacter pylori infection, hepatic dysfunction and genetic predisposition are considered among the etiological factors (3-4). During pregnancy, some immunological changes occur in order to protect the fetus and decidua from the maternal immune system. The excess of these expected physiological immune changes and the inflammatory process have been associated with the pathophysiology of HEG. In recent studies, neutrophil-lymphocyte ratio (NLR) and platelet-lymphocyte ratio (PLR) and combined inflammation markers (neutrophil/lymphocyte ratio-NLR-,platelet/lymphocyte ratio-PLR-, monocyte/lymphocyteratio-MLR,systemic immune inflammation index-SII-,systemic inflammatory response index-SIRI-) have been accepted as inflammatory process markers. We want to investigate the relationship between inflammation markers and ketonuria levels of pregnant women hospitalized with the diagnosis of HEG in the first trimester.

Materials and Methods: Pregnant women diagnosed with HEG and hospitalized between 6-13 weeks of gestation who applied to our emergency clinic between March 2023 and March 2024 with complaints of excessive nausea, vomiting, malnutrition and >+1 ketonuria were

included in the study. The exclusion criteria were multiple pregnancies, presence of infection or inflammatory diseases of mother, mothers under 18, receiving anti-inflammatory or steroid therapy during pregnancy. Obstetric data including age, gender, weight, height, BMI and laboratory results such as Leukocyte, Neutrophil, Lymphocyte and Monocyte parameters from routine blood tests, systemic immune inflammation index (SII), systemic inflammation response index (SIRI) and urine analyses results of all patients were planned to be recorded.

All these data would be scanned retrospectively from the hospital system.

Statistical Analyses:

G-Power analysis was applied to determine the number of groups in the study. According to these results, the groups were planned to have a minimum of 74 people in total, with a power of 0.80 and a margin of error of 10%. The groups were planned as two groups: ketonuria +2 and below (Group 1) and +3 and above (Group 2). Statistical Package for Social Sciences (SPSS Inc., version 20.0; Chicago, IL) will be used in statistical analyses. Kolmogorov Smirnov test and skewness-kurtosis method were used to evaluate the normal distribution of all variables. In addition, the normal distribution of the data was evaluated with histogram, one of the graphical methods. Descriptive statistics were used in the demographic analysis of the patients. In the study data, numerical values are expressed as mean \pm standard deviation and (median) minimum-maximum values. For nonparametric data, the Spearman rank correlation method was used for correlations between data. Results were evaluated for a significance level of $p < 0.05$.

Results-Conclusion: The demographic data distribution of the patients was summarized in Table 1. The mean ages of groups 1 and 2 were 29.1 ± 4.7 /year and 26.8 ± 4.9 /year, respectively. Accordingly, no significant difference was found between the groups in gravida, abortion, gestational week and BMI of the patients ($p > .05$). When the parity numbers of the groups are evaluated; Group 1 was 0.8 (0-3), Group 2 was 0.4 (0-2), and this difference was found to be statistically significant ($p < .05$).

Table 1. Demographic characteristics of the participants

Demographic Characteristics Independent Variables (IVs)	Grup 1	Grup 2	P value
Age(Mean±Standard Deviation)	29.1±4.7/yıl	26.8±4.9/yıl	0.54
BMI(Mean±Standard Deviation)	24.4±2.4	25.1±4.1	0.53
Gravidity(Mean±Standard Deviation)	2.06±1	1.8±0.9	0.25
Parity(Mean±Standard Deviation)	0.8±0.8	0.5±0.6	0.04*
Abortus(nmedian,min-max)	0.12(0-3)	0.28(0-2)	0.20
Gstational week(GW)	9.5±2.8	10.5±3.1	0.24

As statistical analysis, Mann-Whitney U test were used. * =p<0.05 was considered significant.

The minimum and maximum values in the laboratory findings of hyperemesis Gravidarum patients are shown in Table 2. Although the WBC, neutrophil value and lymphocyte values of the patients in Group 1 were lower than those in Group 2, there was no statistically significant difference ($p > .05$). When the Neutrophil/Lymphocyte, Platelet/Lymphocyte ratios were evaluated, there was no statistically significant difference between the two groups ($>.05$), while the difference in the Monocyte/Lymphocyte ratio was found to be significant ($<.05$). However,

when the SII and SIRI indexes were evaluated, as seen in the table, the SII index was significantly higher in Group 2 than in Group 1 ($p < .05$), and there was no statistically significant difference in the SIRI index between the groups.

Table 2. Laboratory parameters of the groups

Laboratory parameters	1.Group(Mean ±Standard Deviation)	2. Group (Mean±Standard Deviation)	P value
WBC($4.0-10.0 \times 10^9/L$)	9.8±2.4	9.2±2.9	0.19
Neutrophils (2.0- $6.0 \times 10^9/L$)	7.6±2.4	8.2±3.2	0.42
Lymphocyte($1.1-3.2 \times 10^9/L$)	1.6±0.7	1.6±1.5	0.18
Monocyte	0.6±1.5	0.5±0.9	<0.05*
Platelet	217±181	218±215	0.53
SII	1746±1764	2066±2534	0.039*
SIRI	5.4±3.2	3.9±3.4	0.257
Neutrophil/Lymphocyte ratio	3.7(1.5-5.8)	3.9(0.8-4.6)	0.881
Monocyte/Lymphocyte ratio	0.2(0.1-3.1)	0.3(0.5-5.2)	0.046*
Platelet/Lenfosit oranı	146(89-389)	174(68-287)	0.196

As statistical analysis, Mann-Whitney U test was used. * = $p < 0.05$ was considered significant.

A weak positive correlation was found between ketonuria and monocyte value, Monocyte/Lymphocyte ratio and SII index ($r_{smon}:0.324, r_{smon/len}:0.226, r_{sSII}:0.234; <0.05$). There was no positive or negative correlation between the patients' ketonuria levels and WBC, neutrophil, lymphocyte, platelet, SIRI Levels (>0.05). It was found that there was no positive or negative correlation between ketonuria levels of pregnant women and their gravida, GW and abortus conditions (>0.05) (Table 3).

Table 3. Relationship between ketonuria levels and indexes of the groups

Laboratory Parameters	Corr.C coef.(r_s)	P value
Ketonuria-Parity	-0.229	0.042*
Ketonuria-Gravidity	-0.252	0.130
Ketonuria-Abortus	0.144	0.207
Ketonuria-Monocyte	0.324	0.004*
Ketonuria-Neutrophil	0.091	0.424
Ketonuria-Platelet	0.071	0.535
Ketonuria- Monocyte/Lymphocyte	0.226	0.046*
Katonuria-SII	0.234	0.038*
Ketonuria -SIRI	0.128	0.206
Ketonuria- Neutrophil/Lymphocyte	0.017	0.823
Ketonuria- Platelet/Lymphocyte	0.092	0.419

Spearman Correlation Method was used. The level of significance was considered $p < 0.05$ in all comparisons.

Discussion: A criteria for diagnosing severe HEG is ketonuria. However, the correlation between the severity of the disease and the degree of ketonuria remains uncertain.

In our study, we divided the patients into two groups according to the severity of ketonuria, but we did not find any difference between the groups in parameters excepty monocyte levels. Consistent with our findings, Çintesun et al. in their study, they compared ketonuria level and

inflammation markers, but did not find a statistically significant difference as well (5). In the same study, a significant difference between NLR and PLR was reported when the control and heg groups were compared. There was no control group in our study, and we did not find any difference in these markers between our groups separated according to ketonuria levels.

In another study, Soysal et al. created 4 groups according to the level of ketonuria (+, ++, +++, +++) and compared the PLR, MLR and NLR between the groups. The differences were statistically significant for all comparisons (6). According to these results, they stated that there is a correlation between ketonuria level and markers. But in our study, we found a significant difference between the groups only in MLR.

So, there are conflicting findings in the literature and Further prospective clinical investigations are required to assess the significance of hematological markers and the importance of ketonuria.

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Covid vs Influenza; Hospitalization and mortality rates; After math of Seasonal Flu-Like Cases

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Introduction: Today, seasonal flu-like symptoms comprise not only Influenza and acquainted viruses as before. Symptoms are similar and often unidentifiable without a specific test. Antigen rapid tests offer differentiation of the reason. The aim is to clarify the cases presented due to flu-liked signs in a comparison of Influenza to Covid.

Materials and methods:The patients had a quick test from January 1 to June 6, 2023. The space age range is 0-90 year sold. Sars Cov-2 and Influenza antigen combo rapid tests were used.

Results: A total of 4939 cases were found to be tested; 400 (8,09 %) were positive for Covid, while 961 (41,6 %) were positive for Influenza. Hospitalizations were 264 (66 %) vs 860 (89,5 %) in Covid, Influenza respectively ($p<0,0001$). Mortality was for 3 cases had Covid (0.75 %); however, none in Influenza ($p=0,0073$). Figure 1 and 2 are demonstrated for positivities and admission.

Discussion: Influenza is still the main one for flu-liked cases in the community, besides Covid taking it splace with a half rate of Influenza in reality. Mortality is relatedto Covid, as its effects on multi-system devastation.

KeyWords: Emergency Medicine, Sars Cov-2 and Influenza, Hospitalization, Mortality

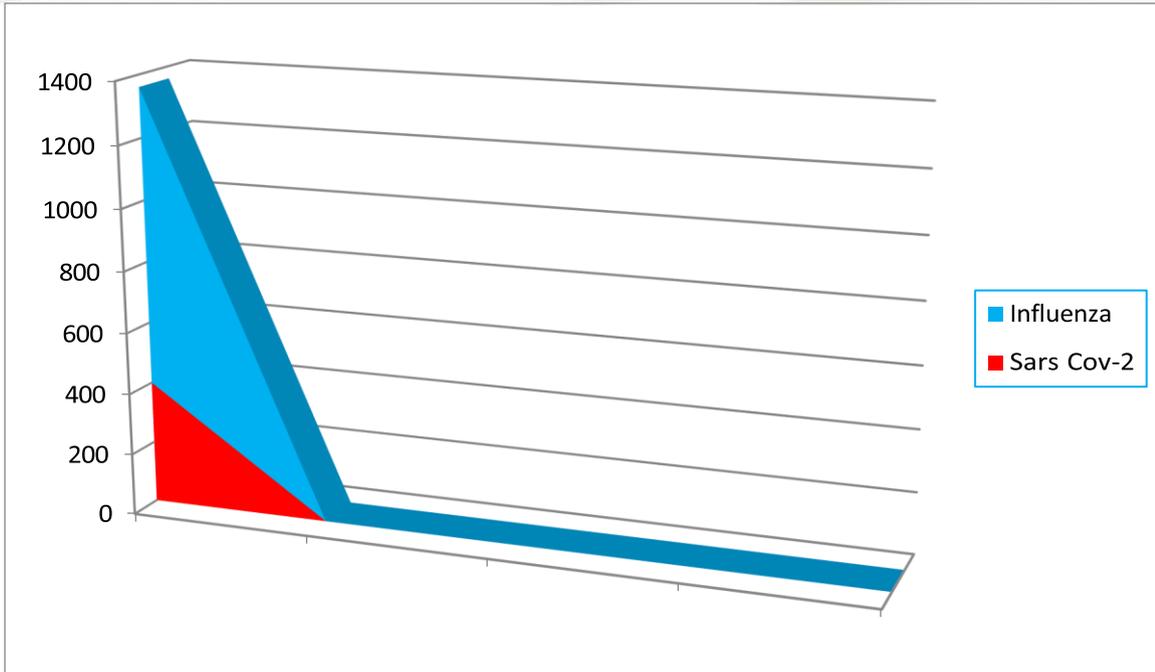


Figure 1. Covid and Influenza antigen combo rapid tests on flu-like cases.

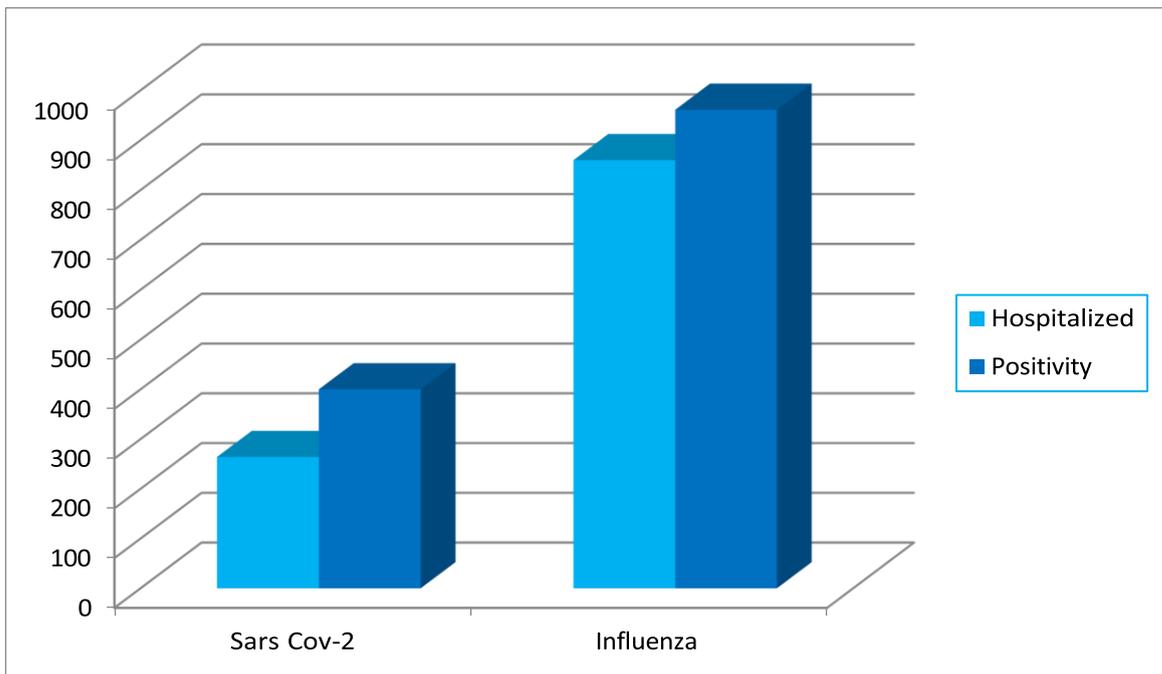


Figure 2. Hospitalization rates in Sars Cov-2 vs Influenza.

7500

Foreign patient and Emergency Medicine

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Introduction: Foreign patients are a recent identity surging in Emergency Medicine. The purpose is to identify these patients, their flow, and the finalization.

Methods: This retrospective study concluded June 1-30, 2023. Files on the database were identified from Nucleus. The study included foreign patients hospitalized in the ED. The nationality, diagnosis, hospitalization department, and whether a relationship between these researched.

Results: 308 foreign patients visited the Emergency Department of Baskent University Alanya Training and Research Hospital. One hundred seventy-two patients (55.8%) were hospitalized. The mean age was 43.5±19.1. The sex ratio was 80/92 (M/F). Figure 1 mentions the citizenship of patients on a bar graph. Figure 2 indicates the distribution of finalization of foreign patients at ED on a pie chart. Figure 3 shows the distribution of finalization of foreign patients at hospitalization. Table 1 demonstrates the diagnosis. When examined on a country basis, the highest number of patients hospitalized, it was found that Polons (35.7%, n=10) and Germans (42.9%, n=9) due to infection and Danes (52.6%, n=10) due to trauma.

Conclusion: Foreign patients apply to the ED with various complaints and often face emergencies requiring hospitalization. Patients are mostly hospitalized due to infectious diseases, trauma and cardiac emergencies and are frequently discharged with a full recovery.

Key words: Emergency Medicine, Foreign Patient, Hospitalization

Hospitalization Indication	Number of Patients(%)
Infectious Diseases	68(39.5%)
Trauma	49(28.5%)

Cardiac Emergencies	16(9.3%)
Neurologic Emergencies	13(7.6%)
Gastrointestinal Emergencies	11(6.4%)
Respiratory Emergencies	6(3.5%)
Environmental Emergencies	3(1.7%)
Genitourinary Emergencies	3(1.7%)
Gynecology and Obstetrics Emergencies	2(1.2%)
Toxicology	1(0.6%)
All	172(100%)

Table 1. Hospitalization Indication

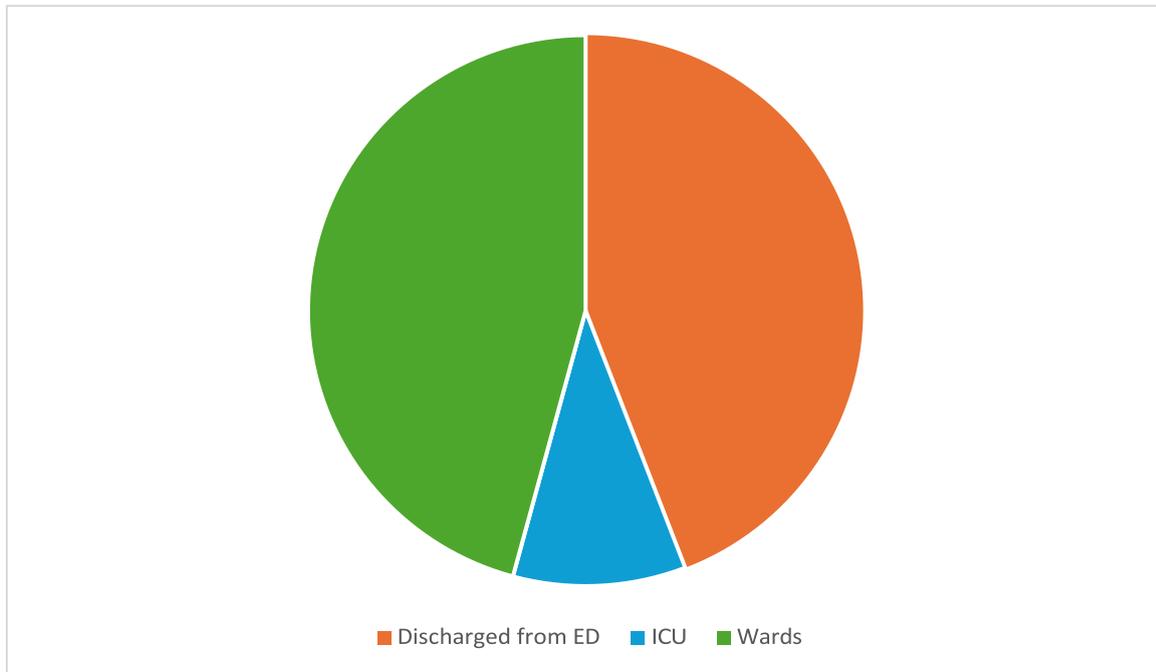


Figure 2. The distribution of finalization of foreign patient at ED.

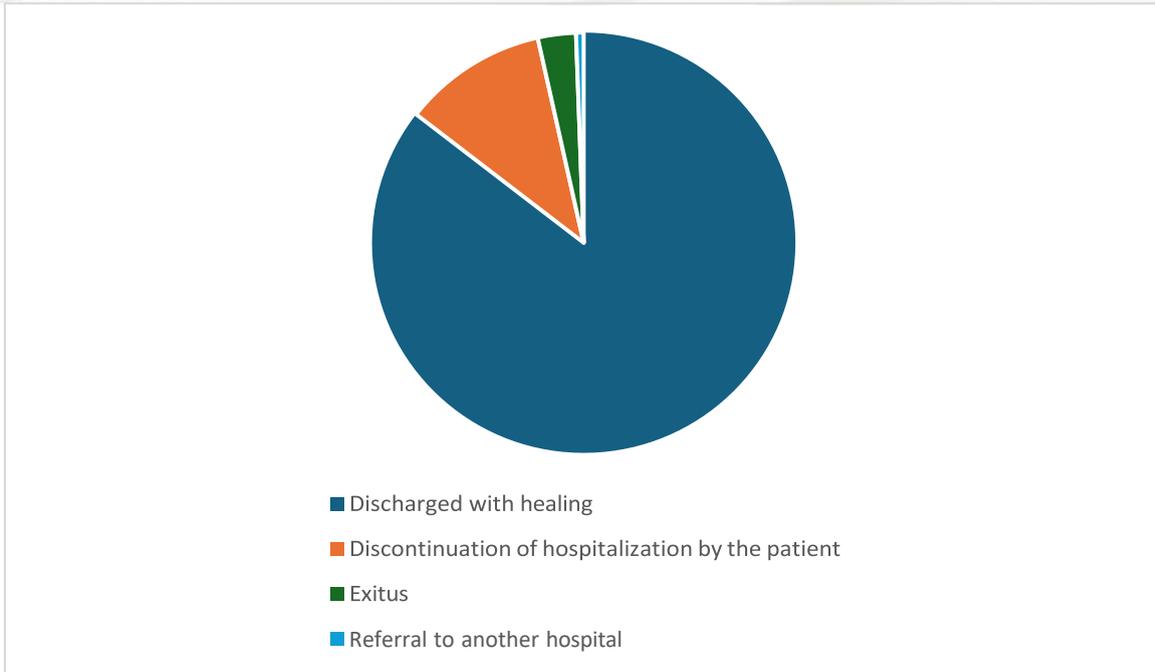


Figure 3. The finalization of foreign patients' hospitalization.

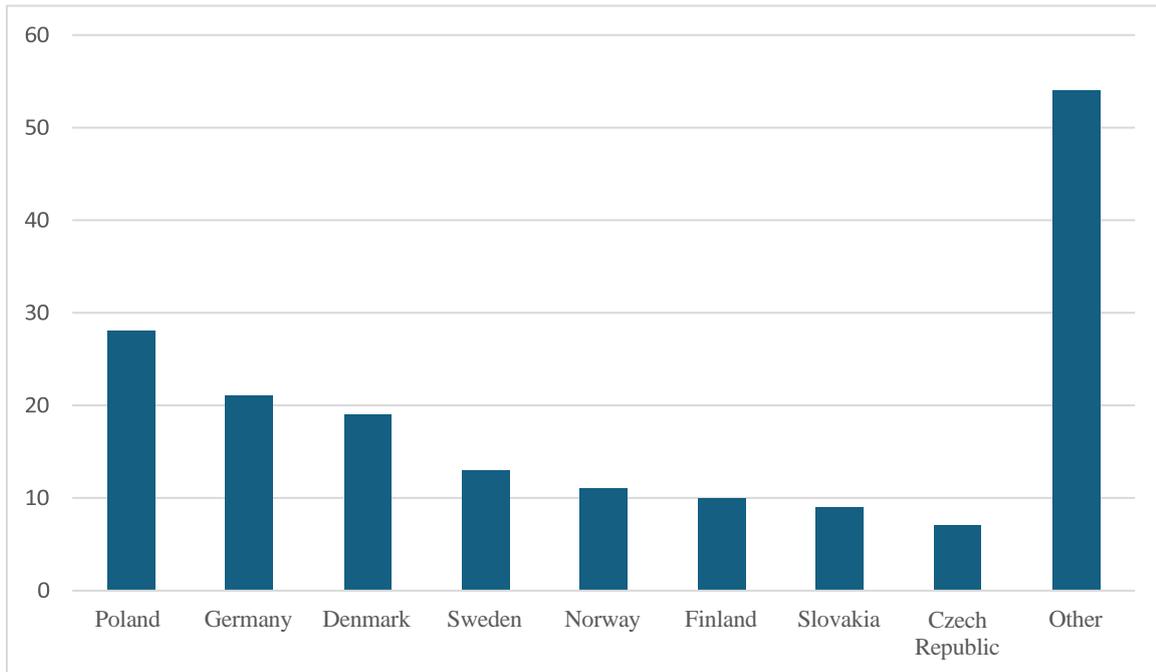


Figure 1. The citizenship of patients on a bar graph.

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Acil serviste solunum sıkıntısı yönetiminde end-tidal CO₂ ölçümü arteriyel parsiyel CO₂'nin yerini alabilir mi?

Giriş

Akut solunum sıkıntısı yaşayan hastaların ilk başvuru noktası genellikle AS'tir. Solunum sıkıntısı yaşayan bireyler için güvenli bir ortam oluşturmak çok önemlidir. Ayrıca, nefes darlığına katkıda bulunan altta yatan faktörleri etkili bir şekilde tespit etmek ve teşhis etmek gerekir. Bu nedenle, yoğun AS ortamlarında solunum durumunu noninvaziv, kolay uygulanabilir ve güvenilir yöntemlerle değerlendiren ölçüm cihazları ilgi çekmektedir. End-tidal karbondioksit (EtCO₂) ölçümü, AS ortamlarında hasta ventilasyonunu değerlendirmek için kullanışlı ve değerli bir yöntem olarak klinik uygulamadaki yerini her geçen gün güçlendirmektedir [1-6].

EtCO₂, ekspirasyon sonunda salınan karbondioksit seviyesidir. Noninvaziv EtCO₂ ölçümü için sadece sayısal değerler veren kapnometri veya hem grafiksel hem de sayısal sonuçlar veren kapnografi kullanılır. Ölçüm ana akım veya yan akım olarak yapılır. Yan akım entübe ve entübe olmayan hastalarda kullanılabilirken, ana akım öncelikle entübe hastalarda kullanılır [2, 6-8]. Yan akım tipinde artan ölü boşluk ve sekresyonlarla tıkanma önemli dezavantajlar iken, ana akım tipinde bunlar bir sorun değildir ve sonuçlar daha güvenilirdir [2,6].

Arteriyel karbondioksitin kısmi basıncı (PaCO₂), AS'e solunum sıkıntısı ile başvuran hastaların teşhis ve tedavisinde altın standarttır. Ancak yoğun AS'de, hastaların ciddiyetini henüz triyaj aşamasındayken anlamamıza yardımcı olacak hızlı, pratik, uygun maliyetli ve noninvaziv yöntemlere ihtiyaç vardır. Literatürde entübe olmayan hastalar üzerinde yapılan çalışmaların birçoğunda yan akım dedektörleri aracılığıyla elde edilen EtCO₂ ölçümleri ile PaCO₂ arasında korelasyon çalışmaları yapılmıştır. [1, 9-10].

Bu çalışmanın temel amacı entübe olmayan hastalarda AS'e ilk başvuruda ana akım dedektörü kullanılarak elde edilen EtCO₂ değerinin hastanın PaCO₂ değeri yerine güvenle kullanılıp kullanılamayacağını belirlemektir. Çalışmanın ikincil amacı, özellikle enditidal karbondioksit ölçümü için uygun olmayan hastalarda (konfüze veya entübe) venöz parsiyel

karbondioksit ($PvCO_2$) ölçümünün $PaCO_2$ ölçümüne bir alternatif olup olmayacağını belirlemektir. Çalışmanın üçüncül amacı, end-tidal karbondioksit ölçümünün hastaneye yatışlarla ilişkili olup olmadığını belirlemektir.

Yöntemler

Çalışma Tasarımı

Nisan ve Mayıs 2023 tarihleri arasında AS'e solunum sıkıntısı ile başvuran hastalarla prospektif kesitsel bir çalışma olarak planlanmıştır (61 gün). Çalışma, yılda yaklaşık 90.000 hasta kabulü olan 317 yataklı üçüncü basamak bir üniversite hastanesinin acil servisinde gerçekleştirilmiştir. Çalışma için Yerel Etik Kurul onayı alınmıştır (Onay Kimliği: 2023/42, 20 Mart 2023 tarihli). Hastalar bilgilendirilmiş onamları alınarak çalışmaya dahil edilmiştir. Hasta verileri, hastaların başvurusu sırasında eş zamanlı olarak çalışma formuna kaydedilmiştir. Tanımlayıcı veriler hastanenin elektronik veri tabanından ve AS kayıtlarından elde edilmiştir.

Katılımcılar ve ölçümler

Etiyolojiye bakılmaksızın primer dispne şikayeti olan, 18 yaşından büyük, kapnograf cihazına üfleylebilen ve AS'te en az 2 saat süreyle takip edilen hastalar çalışmaya dahil edildi. AS'e solunum sıkıntısı ile başvuran 623 hastadan çalışmaya katılmayı reddeden 111 hasta, konfüze, koopere olmayan veya etkisiz üfleme yapan 162 hasta, pıhtılaşma nedeniyle kan gazı sonuçlanmayan 87 hasta, trakeal entübasyon uygulanan 25 hasta, AS'te en az 2 saat bulunmayan 141 hasta çalışma dışı bırakıldı (Şekil 1). Hastaların demografik bilgileri, $EtCO_2$ düzeyi, $PaCO_2$ ve $PvCO_2$ düzeyleri, transkütan oksijen saturasyonu ($TcSO_2$) ve verilen tedaviler ilk başvuru anında (0. dakika), 60. dakikada ve 120. dakikada kaydedildi. Hastaların hastaneye yatış-taburculuk durumları, vital bulguları ve başvurudaki kan gazı pH değerleri de not edildi. Arteriyel kan gazı örnekleri eş zamanlı olarak radial arter, brakial arter veya femoral arterden, venöz kan gazı örnekleri ise eş zamanlı olarak brakial venden heparinize enjektörlerle alındı ve hızlı bir şekilde laboratuvara ulaştırıldı.

$EtCO_2$ Ölçümü

EtCO₂ ölçümleri, 3D ile üretilen tek kullanımlık bir aparatın (Creality Ender 3 Pro 3D yazıcı ile colorFabb 1,75 mm filament kullanılmıştır. 22.09.2023 tarihinde apart için ‘‘Faydalı Model’’ başlığı altında Türk Patent Kurumu’na başvuru yapılmıştır.) ana akım EMMA® Kapnograf cihazının (PHASEIN AB Svärdivägen, Danderyd, İsveç) hava yolu adaptörüne takılmasıyla gerçekleştirilmiştir (Şekil-2, Şekil-3). Solunum sıkıntısı ile başvuran hastalardan spontan tek atımlarla elde edilmiştir. Karbondioksit seviyesi aşağıdaki gibi sınıflandırılmıştır: <35 mmHg (hipokarbi), 35-45 mmHg (normokarbi) ve >45 mmHg (hiperkarbi) [10].

End tidal karbondioksit ölçümü 3 saniye, arteriyel ve venöz karbondioksit ölçümü ise yaklaşık 10 dakika sürmektedir.

İstatistiksel analiz

İstatistiksel analizler Windows için SPSS yazılımı, sürüm 23 (IBM, Chicago, IL, Amerika Birleşik Devletleri) kullanılarak gerçekleştirilmiştir. Tanımlayıcı istatistikler sayı ve yüzde olarak sunulmuştur. Demografik veriler ortalama \pm standart sapma (SD) veya Medyan (çeyrekler arası aralık) olarak sunulmuştur. EtCO₂, PaCO₂, PvCO₂, TcSO₂ ve sigara paket/yıl arasındaki korelasyon analizleri için Spearman korelasyon analizi kullanılmıştır. Spearman korelasyon katsayısı (r) 0,20'nin altındaysa, önemsiz bir korelasyon olarak kabul edilir. Zayıf korelasyon 0,20-0,50 arasında, orta korelasyon 0,50-0,70 arasında ve güçlü korelasyon 0,70'den büyük olduğunda gözlenmektedir. "r" katsayıları "p" anlamlılık değerleri olarak verilmiştir. Korelasyon $p < 0.05$ olduğunda anlamlı kabul edilmiştir. Bağımsız kategorik değişkenler için Pearson ki-kare testi ve Fisher'in kesin testi (beklenen sayı beşten az olduğunda) kullanılmıştır. Alt grup analizi için Bonferroni düzeltmesi yapılmış ve $p < 0.016$ anlamlı kabul edilmiştir. Bağımlı kategorik değişkenler için Mc Nemar testi kullanılmıştır. EtCO₂ ile verilen tedavi ile hastaneden taburculuk arasındaki ilişki için normal dağılım göstermeyen bağımsız iki grup karşılaştırmalarında Mann-Whitney U testi, çoklu grup karşılaştırmalarında ise Kruskal Wallis testi kullanılmıştır. Normal dağılım gösteren sayısal iki gruplu değişkenler için Student-t testi kullanılmıştır. $p < 0.05$ anlamlı kabul edilmiştir.

Sonuçlar

Solunum sıkıntısı ile AS'e başvuran 623 hastadan 512'si çalışmaya katılmayı kabul etti (%82). Bunlardan 415'i yöntemde açıklanan nedenlerle çalışma dışı bırakıldı. Çalışma 97 hasta ile planlandı (Şekil 1). Hastaların yaş ortalaması $70,93 \pm 9,6$ yıldır ve %60,8'i (n=59) erkekti. Başvuran hastaların %43,3'ü (n=42) eski sigara içicisiydi. En sık görülen komorbiditeler %76 (n=74) ile hipertansiyon (HT) ve %58 (n=57) ile KOAH idi. Hastaların tanımlayıcı verileri Tablo 1'de sunulmuştur.

Yatış, 60. ve 120. dakikalardaki ölçümler dahil olmak üzere, hastaneye yatırılan ve taburcu edilen hastalar arasındaki EtCO₂ değerlerinin sonuçları Tablo 2'de gösterilmiştir. EtCO₂ değeri hastanede yatan hastalarda taburcu edilen hastalara göre tüm ölçümlerde istatistiksel olarak anlamlı şekilde daha yüksekti.

Tablo 3, EtCO₂ ile PaCO₂ ve PvCO₂ ölçümleri arasındaki korelasyon sonuçlarını ayrıntılı olarak göstermektedir. EtCO₂ değeri 45'in üzerinde olduğunda, EtCO₂ ile PaCO₂ ve PvCO₂ ölçümleri arasında güçlü pozitif (r=0,844 ve r=0,803) ve anlamlı bir ilişki bulunmuştur (her ikisi için de p<0,001).

EtCO₂ değeri 45'in üzerinde olduğunda, EtCO₂ ile PaCO₂ ve PvCO₂ ölçümleri arasında güçlü pozitif ve anlamlı bir ilişki bulunmuştur (r=0,730 ve r=0,702; her ikisi için p<0,001).

EtCO₂ değeri 35'in altında olduğunda PaCO₂ ve PvCO₂ ölçümü arasında güçlü bir pozitif ve anlamlı korelasyon bulundu (r=0,858; p<0,001). PaCO₂ ve PvCO₂ EtCO₂ değerleri 35-45 arasında olduğunda güçlü pozitif ve anlamlı bir ilişki görüldü (r=0,883; p<0,001). EtCO₂ değeri 45'in üzerinde olduğunda PaCO₂ ve PvCO₂ ölçümü arasında güçlü pozitif ve anlamlı bir ilişki vardı (r=0,891; p<0,001).

Son ölçümlerde 120. dakikada EtCO₂, PaCO₂ ve PvCO₂ değerleri arasında orta derecede pozitif ve anlamlı bir ilişki bulunmuştur (r=0,677 ve r=0,609; her ikisi için p<0,001). EtCO₂ değeri 45'in üzerinde olduğunda, EtCO₂ ile PaCO₂ ve PvCO₂ ölçümleri arasında orta düzeyde pozitif ve anlamlı bir ilişki gözlemlendi (r=0,667 ve r=0,563; her ikisi için p<0,001). EtCO₂ değeri 35'in altında olduğunda, PaCO₂ ve PvCO₂ ölçümü arasında orta derecede pozitif ve anlamlı bir korelasyon gözlemlenmiştir (r=0,697; p<0,001). EtCO₂ değeri 35-45 arasında olduğunda PaCO₂ ve PvCO₂ ölçümleri arasında güçlü pozitif ve anlamlı (r=0,791; p<0,001) bir ilişki tespit edildi. EtCO₂ değeri 45'in üzerinde olduğunda PaCO₂ ve PvCO₂ ölçümü arasında güçlü pozitif ve anlamlı bir ilişki vardı (r=0,870; p<0,001).

Başvuru sırasındaki EtCO₂ ve PaCO₂ ölçümleri arasında güçlü pozitif ve anlamlı bir ilişki bulduk ($r=0,820$; $p<0,001$). 60'ıncı dakika EtCO₂ ile PaCO₂ ölçümü arasında güçlü pozitif ve anlamlı bir ilişki bulduk ($r=0,729$; $p<0,001$). PaCO₂ ile 60. dakikadaki PvCO₂ ölçümü arasında güçlü pozitif ve anlamlı bir ilişki vardır ($r=0,937$; $p<0,001$). EtCO₂ ile yatıştaki TcSO₂ ölçümü arasında orta derecede negatif ve anlamlı bir ilişki vardır ($r= -0,516$; $p<0,001$). EtCO₂ ile 60. dakika ve 120. dakikadaki TcSO₂ ölçümü arasında anlamlı bir ilişki yoktu ($p=0,402$ ve $p=0,771$).

Tartışma

Çalışmamızda başvuru sırasındaki (sıfırıncı dakika) EtCO₂ ile PaCO₂ ve PvCO₂ ölçümleri arasında yüksek korelasyon bulunmuştur (sırasıyla $r = 0,820$ ve $r = 0,772$). Ayrıca PaCO₂ ile PvCO₂ arasında da yüksek bir korelasyon bulduk ($r=0,891$; $p<0,001$). EtCO₂ değeri 35-45 arasında olduğunda EtCO₂ ile PaCO₂ ve PvCO₂ ölçümleri arasında orta derecede pozitif ve anlamlı bir ilişki bulduk (sırasıyla $r=0,621$ ve $r=0,657$; her ikisi için de $p<0,001$). EtCO₂ değeri 45'in üzerinde olduğunda, EtCO₂ ile PaCO₂ ve PvCO₂ ölçümleri arasında güçlü bir pozitif ve anlamlı ilişki bulunmuştur (sırasıyla $r=0,844$ ve $r=0,803$; her ikisi için de $p<0,001$). Bunun dışında, tüm ölçümler için PaCO₂ ve PvCO₂ arasında güçlü bir korelasyon gözlenmiştir. Bu sonuçlar, solunum sıkıntısı ile AS'e başvuran triyaj hastalarında, tek bir darbe ile ölçülen EtCO₂ değerinin 45'in üzerinde olması durumunda hastanın hiperkapnik olarak kabul edildiğini ve tedaviye erken başlanabileceğini göstermiştir. Bir diğer önemli sonuç ise venöz kan gazı ölçümünün, yorucu bir prosedür olan arteriyel kan gazı ölçümüne güçlü bir alternatif olduğudur.

Solunum sıkıntısı ile başvuran bir hastada arteriyel kan gazı örnekleme hem hasta hem de hekim için genellikle zordur. Zaman zaman tekrarlanması gerekebilir. Hasta konforunu artırmak ve yeni güvenilir yöntemler belirlemek için birçok klinik çalışma tasarlanmıştır. Alternatif yöntemlerden biri de EtCO₂ ölçümüdür. Healey ve arkadaşları, yardımcı kontrollü mekanik ventilasyonun çekilmesinden önce ve sonra ölçülen EtCO₂ ve PaCO₂ arasında yüksek bir korelasyon olduğunu göstermiştir [11]. Plewa ve arkadaşları, hastaların zorlu ekspirasyon modeli ile elde edilen EtCO₂ değerinin PaCO₂ değeri ile yüksek korelasyon gösterdiğini bulmuşlardır [12].

Entübe olmayan hastalarda EtCO₂ ölçümünün zorlukları vardır. Bu zorlukların başında hasta işbirliği gelmektedir. Solunum sıkıntısı olan ayaktan hastaların ilk paniği, AS'te EtCO₂

ölçümü için bir başka zorluk olsa da, arteriyel kan gazı örneklemesinden daha kolaydır. Suzuki ve arkadaşları solunum yolu hastalıkları nedeniyle takip edilen entübe olmayan hastalarda yaptıkları çalışmada EtCO₂ ile PaCO₂ arasında yüksek pozitif korelasyon bulmuşlardır (r = 0,88; p < 0,0001) [13]. Bu çalışmalar bizim sonuçlarımızı desteklemektedir. EtCO₂ , AS'e solunum sıkıntısı ile başvuran hastaların ilk tedavisine başlarken arteriyel kan gazı örneklemesine göre daha konforlu, hızlı ve kolay tekrarlanabilir bir alternatiftir.

Venöz kan gazı örnekleme kolaydır. İnvaziv bir prosedür olmasına rağmen, hasta ve hekim için tekrarlanması arteriyel kan gazı örnekleme kadar zor değildir. Bu nedenle PaCO₂, EtCO₂ ve PvCO₂ arasındaki ilişkinin anlaşılması araştırılmıştır [14,15]. Ancak literatürdeki çalışmalar kısmi bir fikir birliği içermektedir. Sistematik bir derlemede, dahil edilen çalışmaların yalnızca %22,5'inde arteriyel ve venöz parametreler arasında güçlü bir korelasyon tespit edilmiştir [14]. Tahmin edilebileceği gibi, hasta özelliklerine bağlı olarak farklı sonuçlar ortaya çıkabilir. Lumholdt ve arkadaşları, çeşitli tanı ve şikayetleri olan 20 hastayla yaptıkları metodolojik çalışmada, periferik venöz kan gazı değerlerinin arteriyel kan gazı değerlerine matematiksel uyumluluğunu araştırmışlardır. PaCO₂ ve PvCO₂ arasında matematiksel olarak öngörülebilir bir ilişki olduğunu belirtmişlerdir [16]. Solunum hastalıkları nedeniyle takip edilen entübe olmayan hastalarda yapılan bir çalışmada PaCO₂ ve PvCO₂ arasında pozitif bir korelasyon olduğu gösterilmiştir (r= 0.81; p<0.001) [13]. Çalışmamızda, solunum sıkıntısı olan hastalarda başvurudan tedavinin ikinci saatine kadar parsiyel karbondioksit basıncı (pCO₂) açısından venöz ve arteriyel kan gazı arasında yüksek bir korelasyon olduğu gösterilmiştir. Tüm bu bulgular ışığında, end-tidal karbondioksit ölçümü arteriyel karbondioksit ölçümüne mükemmel bir alternatif gibi görünmektedir. Ayrıca, non-invaziv end-tidal karbondioksit ölçümü için uygun olmayan kooperatif hastalarda venöz karbondioksit ölçümü de iyi bir alternatiftir. Daha az invaziv olması ve diğer birçok kan testiyle eş zamanlı olarak damardan alınabilmesi venöz karbondioksit ölçümünü daha önemli hale getirmektedir.

Literatürde akut solunum sıkıntısı olan hastalarda kapnografinin güvenilir bir araç olarak PaCO₂'nin yerini alıp alamayacağı konusunda çelişkili sonuçlar ortaya konmuştur [2,3]. Çalışmamızda, akut solunum sıkıntısı ile başvuran hastaların yatıştaki ve tedaviden sonraki 1. ve 2. saatlerdeki EtCO₂ değerleri hastaneye yatış ile ilişkilendirilmiştir. EtCO₂ ölçümleri hastaneye yatırılan hastalarda taburcu edilen hastalara kıyasla daha yüksekti.

Bu çalışmanın ana kısıtlılığı, üçüncü basamak bir üniversite hastanesinin acil servisine başvuran hastalardan oluşan bir çalışma grubuyla tek bir merkezde yürütülmüş olmasıdır. Çalışmanın yapıldığı şehirdeki vaka sayısının az olması, bu çalışmaya dahil edilen hasta sayısının sınırlı kalmasına neden olmuştur. İkinci olarak, hiçbir hastada pCO₂'yi vücut sıcaklığına göre düzeltmedik. Üçüncü olarak, hastanın solunum hızı kaydedilmemiştir. Solunum hızı arttığında ölü boşluk oranı artar ve EtCO₂ seviyesi düşebilir. Dördüncü sınırlama ise EtCO₂ ölçümünün yalnızca koopere hastalarda yapılabilmesidir. Son olarak, yaş, mevcut akciğer hastalığı ve sigara kullanımı gibi durumlar EtCO₂ değerlerinin değişmesine neden olabilir. Biz hastalar üzerinde alt grup analizi yapmadık. Bu alternatif tanı yönteminin doğrulanması için alt grupların ayrı ayrı çalışıldığı ve hastanın solunum hızı ve sıcaklığı gibi yaşamsal değerlerine göre gerekli düzeltmelerin yapıldığı büyük ölçekli ve çok merkezli çalışmalara ihtiyaç vardır.

Sonuç

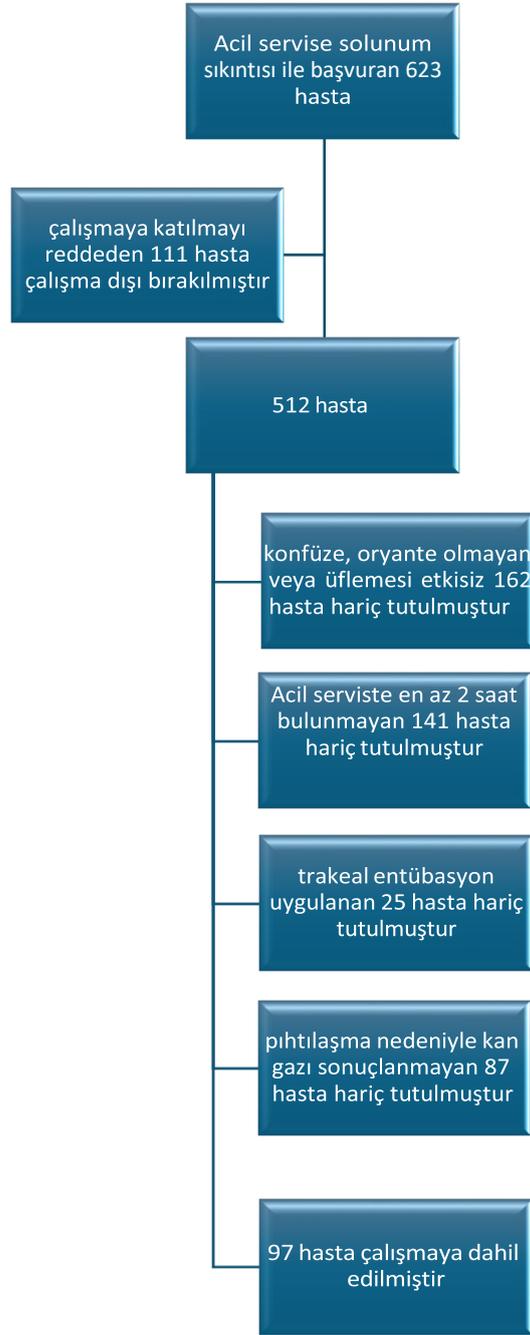
Ürettiğimiz bir üfleme aparatının kapnografa eklenmesi ve solunum sıkıntısı olan hastaların spontan olarak solutulmasıyla elde edilen EtCO₂ değeri, hastaların acil servis triyajında ve akut tedavinin ilk iki saatinde arteriyel kan gazına güçlü bir alternatiftir. Akut solunum sıkıntısı olan hastalarda bu basit, noninvaziv EtCO₂ ölçümü, hastaneye yatış kararlarının erken öngörülmesinde de yardımcı olmaktadır.

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Şekil 1: Çalışma dışı bırakılan hastaların akış şeması



Şekil 2: Endtidal karbondioksitin noninvaziv ölçümü

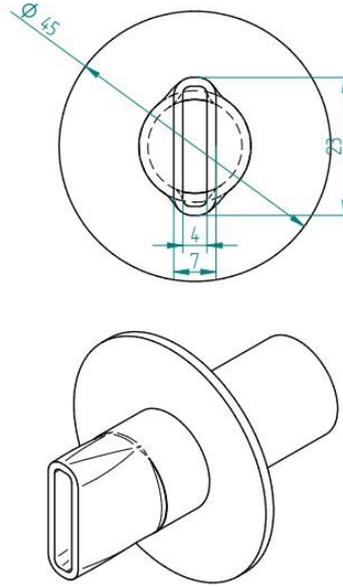
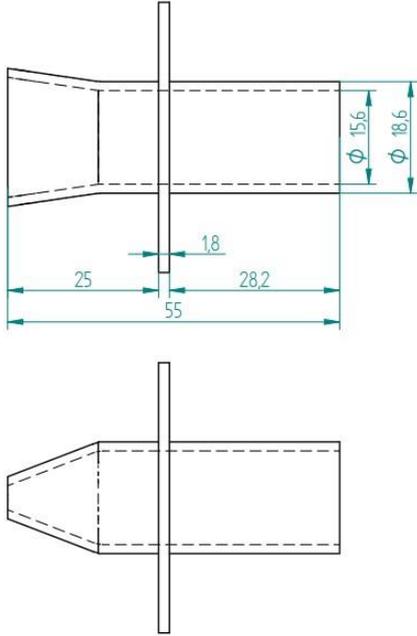


Şekil-3:

Aparatın

teknik

çizimi



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Solid Edge Teacher Edition

Özellikler	n(%)
Cinsiyet, Erkek	59(%60.8)
Yaş, yıl [ortalama +SS (min-max)]	70.93± 9.6 (41-90)
Başlangıç arteriyel kan gazı pH değeri [ortalama+sd (min-maks)]	7.37±0.08 (7.081-7.57)
Başvuru sırasındaki tedavi	
İnhaler bronkodilatör	45(%46.4)
Diüretik	12(%12.4)
Noninvaziv mekanik ventilasyon (NIMV)	12(%12.4)
Sadece oksijen desteği	11(%11.3)
İnhaler+diüretik	12(%12.4)
Diüretik+NIMV	5(%5.2)
	0(%0)
İlk saatte tedavi	
İnhaler bronkodilatör	40(%41.2)
Diüretik	15(%15.5)
NIMV	15(%15.5)
Sadece oksijen desteği	10(%10.3)
İnhaler+diüretik	12(%12.4)
Diüretik+NIMV	5(%5.2)
	0(%0)
İkinci saatte tedavi	
İnhaler bronkodilatör	35(%36.1)
İdrar söktürücü	17(%17.5)
NIMV	18(%18.5)
Sadece oksijen desteği	12(%12.4)
İnhaler+diüretik	11(%11.3)
Diüretik+NIMV	4(%4.1)
	0(%0)
Komorbiditeler*	
Kalp yetmezliği	37 (%38)

Hipertansiyon	74(% 76)
Kronik obstrüktif akciğer hastalığı	57(% 58)
Diyabet	36(% 37)
Koroner arter hastalığı	13(% 13)
Kronik böbrek yetmezliği	11(% 12)
Akciğer malignitesi	7(% 7)
Tüberküloz	9 (% 10)
Diğer maligniteler	4(% 4)
İnterstisyel akciğer hastalığı	1(% 1)
Sigara içme	
Aktif içici	16(% 16.5)
Sigarayı bırakan	42(% 43.3)
Hiç içmeyen	39(% 40.2)
Kronik hiperkarbi tanısı (başvuruda PaCO₂ > 45 mmHg)	33(% 34)
KOAH alevlenmesi	18(% 18.6)
Kalp yetmezliği	11(% 11.4)
Pnömoni	2(% 2)
Akut böbrek yetmezliği	2(% 2)
Sonuç	
Taburcu edildi	62(% 63.9)
Göğüs hastalıkları servisine kabul	23(% 23.7)
Kardiyoloji servisine kabul	5(% 5.2)
Yoğun bakım ünitesi	7(% 7.2)
* Hastaların birden fazla komorbid durumu olabilir.	

Tablo 1: Solunum sıkıntısı olan hastaların tanımlayıcı verileri (n=97)

Tablo 2: Solunum sıkıntısı olan hastaların hastaneye yatış durumuna göre end-tidal karbondioksit (EtCO₂) değerlerinin karşılaştırılması

Parametreler	Tüm hastalar	Yatan Hastalar	Taburcu edilenler	p değeri
Başvurudaki EtCO ₂	35 (30-45)	46.17±15.235	33.95±9.31	<0.001
60. dakikadaki EtCO ₂	33 (28-41)	42.69±14.784	32.90±7.923	<0.001
120. dakikadaki EtCO ₂	34 (29-41.25)	42.37±15,923	34.06±8,400	0.006

Değerler ortalama ±SS veya medyan (çeyrekler arası aralık) olarak gösterilmiştir. p<0.05 istatistiksel olarak anlamlı kabul edilmiştir.

Tablo 3: EtCO₂ ile PaCO₂ ve PvCO₂ ölçümlerinin korelasyon analizleri.

Başvuru		EtCO ₂	PaCO ₂	PvCO ₂
EtCO ₂ (mmHg)	r		0,820	0,772
	p		<0,001	<0,001
<35	r		-	-
	p		0,064	0,056
35-45	r		0,621	0,657
	p		<0,001	<0,001
>45	r		0,844	0,803
	p		<0,001	<0,001
PaCO ₂ (mmHg)	r	0,820		0,891
	p	<0,001		<0,001
PvCO ₂ (mmHg)	r	0,772	0,891	
	p	<0,001	<0,001	
60. dakika				
EtCO ₂	r		0,729	0,653
	p		<0,001	<0,001

<35	r		-	-
	p		0,341	0,361
35-45	r		0,635	0,551
	p		<0,001	<0,001
>45	r		0,730	0,702
	p		<0,001	<0,001
PaCO ₂	r	0,729		0,937
	p	<0,001		<0,001
PvCO ₂	r	0,653	0,937	
	p	<0,001	<0,001	
120. dakika				
EtCO ₂	r		0,677	0,609
	p		<0,001	<0,001
<35	r		-	-
	p		0,323	0,336
35-45	r		0,480	0,415
	p		<0,001	<0,001
>45	r		0,667	0,563
	p		<0,001	<0,001
PaCO ₂	r	0,677		0,876
	p	<0,001		<0,001
PvCO ₂	r	0,609	0,876	
	p	<0,001	<0,001	

7628

Portal Vein Thrombosis Presenting With Acute Abdomen

Introduction:

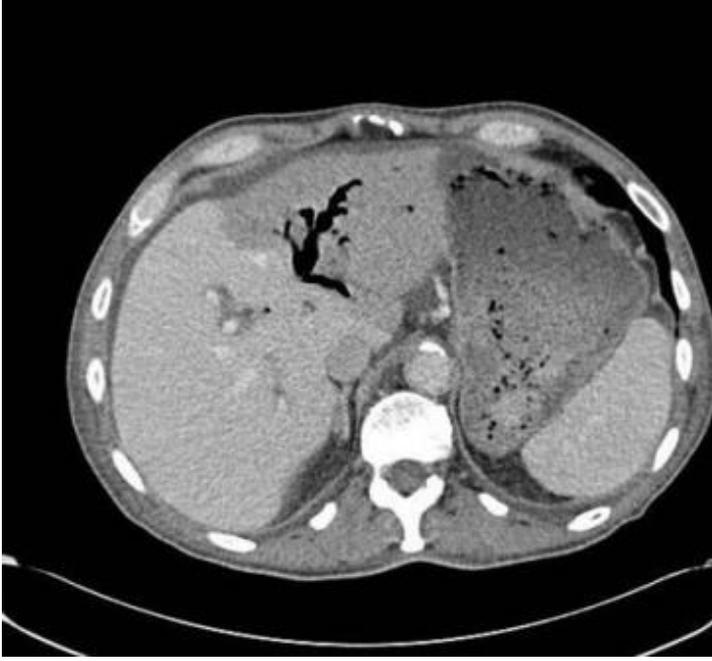
Portal vein thrombosis (PVT) is the obstruction or narrowing of the portal vein by a thrombus. It is relatively rare and is associated with the presence of an underlying liver disease or prothrombotic disorders. Acute PVT may be asymptomatic, but life-threatening intestinal ischaemia and infarction may present to the emergency department.

Acute abdomen is a potentially life-threatening condition that is common in patients presenting to the emergency department and can be caused by various pathologies. In this case report, the management of a patient who presented with abdominal pain and was diagnosed with portal vein thrombosis by computed tomography (CT) is discussed in detail. The importance of radiological findings and laboratory tests in the diagnosis and treatment process is emphasised.

Case Presentation:

A 44-year-old man with known hypertension and coronary artery disease was admitted to the emergency department with the complaints of increasing abdominal pain and weight loss for about 20 days. Physical examination revealed diffuse tenderness and right upper quadrant defence. During emergency department evaluation, a diagnosis of portal vein thrombosis was made by computed tomography (CT). (Figure 1) CT images showed marked thrombotic occlusion of the portal vein with secondary segmentation of the liver and signs of portal hypertension.

Figure 1.



Radiological Findings:

Computed tomography (CT) images show marked thrombotic occlusion of the portal vein. There is also segmental segmentation of the liver and signs of portal hypertension. CT is critical to confirm the diagnosis of portal vein thrombosis and is often the imaging modality of choice for initial evaluation in acute abdomen cases.

Laboratory Findings:

Laboratory tests play an important role in the evaluation of patients presenting with acute abdomen. Laboratory tests for the diagnosis of portal vein thrombosis may include the following

Complete Blood Count (CBC)

Coagulation Profile

Liver Function Tests (LFT)

Blood Gases and Lactate Levels

Urine Examination

D-dimer

The leukocyte count was 15 thousand/ml, GGT level was 89 U/l and lactate level was 5.1 mmol/l in blood gas. Other laboratory tests were normal.

Treatment and Management:

The patient was urgently taken to the operating theatre to prevent complications due to thrombosis. During the operation, necrosis secondary to venous ischaemia was detected in the small intestinal anus and resection was performed. In the postoperative period, the patient was followed up in the general surgery intensive care unit and the possibility of thromboectomy was evaluated by interventional radiology.

Discussion:

PVT is a diagnosis that can cause abdominal pain and can have serious mortal consequences. While other acute abdomen presentations usually involve pathologies such as appendicitis, gallbladder diseases, pancreatitis, portal vein thrombosis is usually associated with a vascular or haematological origin. Therefore, when the diagnosis of portal vein thrombosis is considered, it is important to carefully evaluate the clinical and radiological findings and to perform appropriate laboratory tests to exclude other possible diagnoses.

Mesenteric vein obstruction and its complications must be ruled out in acute PVT cases. Patients with these findings should be urgently consulted with general surgery. Patients with faint symptoms, good general condition, normal haemogram and liver function tests and oral intake may be followed up by the relevant branch after anticoagulation treatment.

Portal vein thrombosis may lead to complications such as impaired liver function and portal hypertension. Therefore, follow-up and management of patients may require a multidisciplinary approach. Additional treatment options such as anticoagulant therapy or interventional procedures should be considered when necessary.

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7637

Megaloappendix

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INTRODUCTION: The appendix is a blind intestine extension located at the beginning of the large intestine, measuring between 5 to 10 cm in length. The appendix is around half a centimeter in width. Acute appendicitis occurs as a result of the appendix becoming blocked. This blockage can be caused by undigested food residues, seeds of some fruits, foreign bodies, rarely tumors, and fecaliths (1).

Patients with appendicitis typically present with nausea, vomiting, loss of appetite, and pain in the lower right quadrant (2).

CASE: A 24-year-old male patient presented to our ED with complaints of abdominal pain. His general condition was good and vital signs were stable. GCS was 15. On physical examination, there was no rebound in the abdomen. However, tenderness was present in the lower right quadrant. The patient also reported nausea. Blood tests including biochemistry, complete blood count, and coagulation profiles were obtained. Symptomatic therapy were initiated. Blood tests showed mild elevation in CRP, NLR, and WBC levels. Despite symptomatic treatment, the patient did not experience relief. The ACT scan revealed thickening of submucosal fatty tissue in the cecal area. The appendix measured 18 mm in diameter with minimal contamination around it. Several peri-appendiceal lymph nodes were observed. No free fluid was identified in the abdomen. The patient was consulted with the general surgery department. He was taken to emergency surgery.

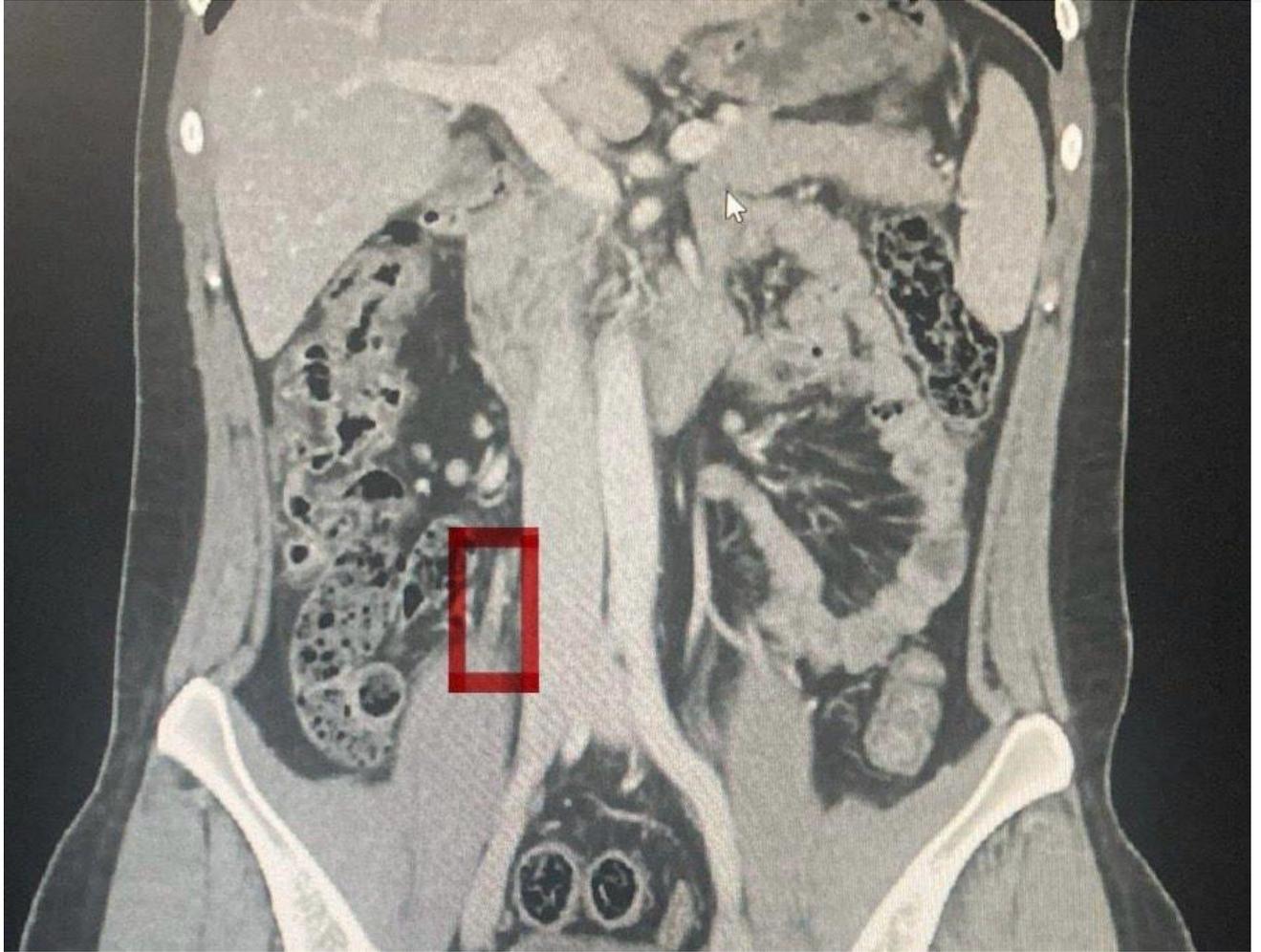
DISCUSSION: Studies have shown that approximately 10% of people experience acute appendicitis at some point in their lives. It is 1.5 times more common in males than in females. It is most commonly seen in young adults (3). Thorough physical examination and interpretation of test results in the emergency department can facilitate diagnosis. Definitive diagnosis made by CT scan (4). If not treated promptly, appendicitis can lead to ulceration and peritonitis. While antibiotic treatment may be effective in some cases, definitive treatment is

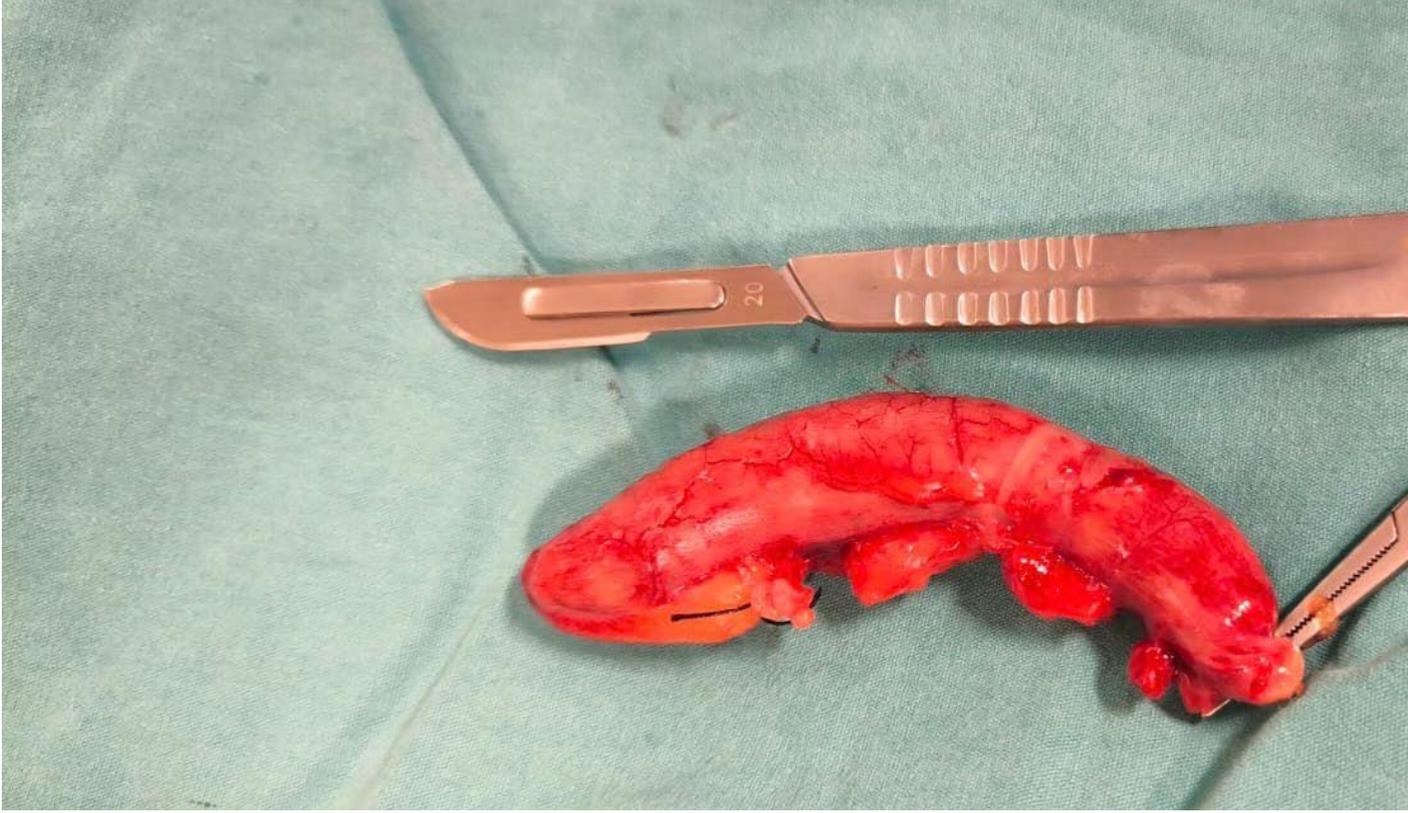
surgical removal. If left untreated, appendicitis can even lead to death (1). The largest appendicitis cases reported so far were 26 cm in Croatia in 2006. Later, in 2011, a megalooappendicitis measuring 55 cm was removed in Qatar (5,6).

KEYWORDS: appendicitis, emergency medicine

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RUPTURED ABDOMINAL AORTIC ANEURYSM PRESENTING WITH GLUTEAL PAIN

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Abstract

Introduction and Purpose: Aortic aneurysm is a potentially life-threatening condition when ruptured. Several risk factors contribute to its development, including advanced age, male gender, Caucasian ethnicity, connective tissue disorders, pregnancy, atherosclerosis, smoking, hypertension, diabetes mellitus, hyperlipidemia, and family history. The most prevalent symptom in cases of rupture is a sudden onset of back or abdominal pain.

Materials and Methods: A 71-year-old man was admitted to the emergency department complaining of isolated pain in his left gluteal region. The discomfort subsequently spread to the left lower quadrant of his abdomen and left renal region. Following thorough investigations and radiological imaging, the patient was diagnosed with a ruptured abdominal aortic aneurysm. He underwent emergency surgery performed by cardiovascular surgeons.

Results and Conclusion: In cases of ruptured aortic aneurysms, diagnosis begins with clinical suspicion and is subsequently confirmed through imaging. Therefore, it is crucial to acknowledge that patients with AAA rupture may present at the emergency department with atypical symptoms. Early recognition of these symptoms is essential for prompt diagnosis and surgical intervention, ultimately reducing mortality rates. It should be kept in mind that abdominal aortic aneurysms may also present with atypical symptoms.

Keywords: Atypical symptom, gluteal pain, ruptured aortic aneurysm

Introduction

An aneurysm is an enlargement of the arterial wall diameter 1.5 times larger than normal. Abdominal aortic aneurysm (AAA) is an abdominal aortic diameter of more than 3 cm. Surgical repair is considered when the aortic diameter is more than 5 cm (1). AAA has been reported in the range of 5-10% in the population over 65 years of age (2). First-degree relatives of AAA patients frequently have a history of aortic aneurysm (18%). Risk factors for aortic aneurysm

encompass advanced age, male gender, Caucasian ethnicity, association with connective tissue diseases, pregnancy, atherosclerosis, smoking, hypertension, diabetes mellitus, hyperlipidemia, and family history (3,4). In instances of aortic aneurysm or rupture, the most prevalent symptom is a sudden onset of back or abdominal pain. While the classic triad of a ruptured aortic aneurysm includes abdominal pain, pulsatile abdominal mass, and hypotension, this triad is observed in only one-third of patients (5). Early diagnosis is crucial in cases of AAA because the aneurysm tends to enlarge post-diagnosis, leading to potential rupture (6). Typically, unruptured aortic aneurysms progress without symptoms. However, ruptured cases can be fatal, resulting in severe pain, hypovolemic shock, and sudden cardiac collapse (7-9). In this article, we present a case of a patient admitted to the emergency department with isolated gluteal pain, ultimately diagnosed with AAA rupture. Additionally, we aim to contribute to the literature by highlighting that AAA rupture may also manifest atypically in emergency department presentations.

Case

A 71-year-old male patient was admitted to the emergency department with sudden onset of severe pain in the left hip in the morning. The patient's vital signs were as follows: arterial blood pressure: 110/70 mmHg, pulse rate: 67/min, respiratory rate: 22/min and temperature: 36.0 °C. The patient had a medical history of hypertension and lumbar disc herniation and was taking antihypertensive and nonsteroidal anti-inflammatory drugs for these diseases. He was also a smoker for 25 years/2 pack days. His family history was unremarkable. The patient had no history of trauma. During the physical examination, the patient's neurological status was assessed and found to be normal. Ecchymoses were observed on the posterior aspect of the left femur. Additionally, the patient exhibited significant pain upon palpation of the left gluteal region. All other system examinations yielded normal results. Radiological imaging of the pelvis and left femur revealed no abnormalities, and lower extremity arterial and venous Doppler ultrasonography showed no pathological findings. Laboratory tests indicated the following values: pH of 7.286, pCO₂ of 53.9 mmHg, lactate level of 4 mmol/L, white blood cell count of $12.8 \times 10^9/L$, hemoglobin level of 14.5 g/dL, and a d-dimer level of 4.26 microgram/mL. The patient's pain intensified, and their arterial blood pressure was 90/60 mmHg as the pain spread to the left lower quadrant of the abdomen and the left renal cavity. Subsequently, computed tomography (CT) angiography of the abdomen and lower extremities was conducted. The scan revealed a 9 cm aneurysmal dilatation with mural thrombus in the

distal abdominal aorta (Figure-1). Given the diagnosis of AAA rupture, the patient was referred to the cardiovascular surgery department. Emergency surgery was promptly performed by the cardiovascular surgery team, involving endovascular aneurysm repair and graft implantation.

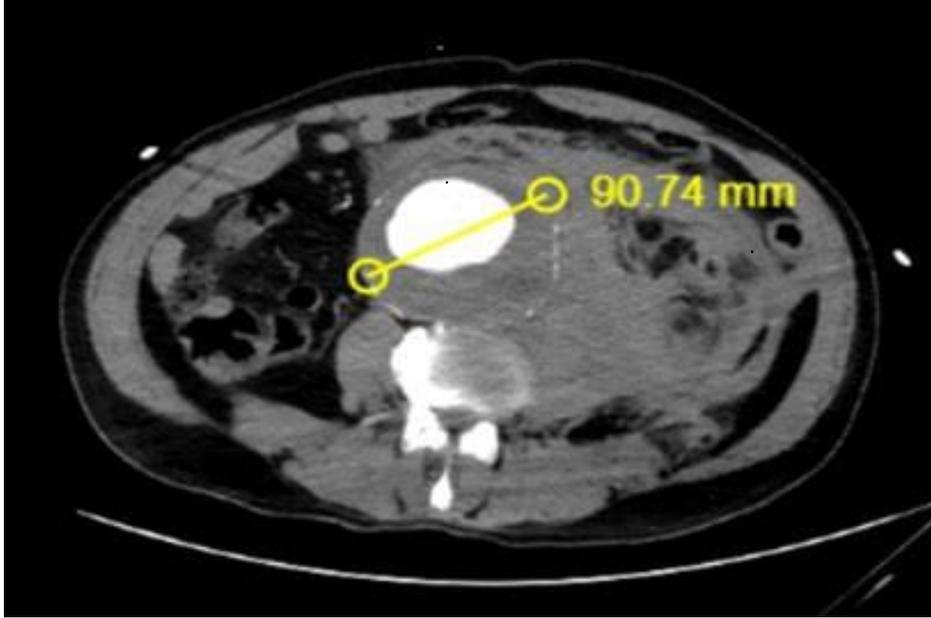


Figure-1: 9 cm ruptured AAA and mural thrombus

Discussion

AAA poses a significant risk to life, as it may progressively dilate over time and ultimately rupture. Studies have demonstrated a correlation between aortic diameter and the likelihood of rupture in AAA patients (10). For instance, the probability of rupture within one year is approximately 9.4% for AAAs measuring between 5 to 5.9 cm, while AAAs measuring 7 cm have a rupture rate as high as 32.5% (11). Early detection of ruptured AAA in emergency departments, followed by prompt surgical intervention, can be lifesaving. Although the classic triad of symptoms for ruptured AAA includes abdominal pain, pulsatile abdominal mass, and hypotension, only about one-third of patients present with all three symptoms (12). Similar to our case, patients experiencing AAA rupture may present at the emergency department with atypical symptoms. For instance, our patient arrived with severe pain localized to the gluteal region, deviating from the classical AAA presentation. Syncope resulting from rapid blood loss and inadequate cerebral perfusion is observed in about 10% of AAA rupture cases. Additionally, symptoms of hypotension and tachycardia have been documented in a minority of cases (13). AAA rupture should be considered as a possibility when patients present to the emergency department with unexpected complaints, such as nausea, vomiting, bladder pain, tenesmus,

neuropathy due to compression of the femoral nerve, altered consciousness, and low back pain. It is crucial to employ appropriate laboratory and imaging methods in such cases to ensure timely diagnosis and intervention (14). External signs of acute rupture are seldom observed, but they may include ecchymosis around the umbilicus (known as Cullen's sign) or ecchymosis of the flank (referred to as Gray Turner's sign). Additionally, retroperitoneal blood may accumulate in the perineum or groin, which can be detected during physical examination as scrotal or vulvar hematomas, or as an inguinal mass (15). Laboratory tests typically do not play a significant role in diagnosing AAA rupture. However, a complete blood count (hemogram) can help assess the necessity for blood transfusion. Liver and renal function tests may serve as markers to indicate organ ischemia (16). Additionally, studies have shown that D-dimer levels tend to be notably elevated in AAA patients, as observed in our case. (17). Various imaging modalities such as direct radiographs, ultrasonography, CT angiography, and magnetic resonance imaging (MRI) are available for diagnosing AAA (18). In cases of ruptured aortic aneurysms, diagnosis begins with clinical suspicion and is subsequently confirmed through imaging. Therefore, it is crucial to acknowledge that patients with AAA rupture may present at the emergency department with atypical symptoms. Early recognition of these symptoms is essential for prompt diagnosis and surgical intervention, ultimately reducing mortality rates.

Conclusion

Ruptured aortic aneurysm should always be considered as a potential diagnosis in patients arriving at the emergency department with atypical complaints like flank pain, groin pain, or hip pain, especially when considering their risk factors.

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Extremely high bicarbonate levels in a patient with mixed alkalosis: A case report

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INTRODUCTION

Respiratory acidosis: It is a clinical picture in which the pH value is below 7.35 and the partial carbon dioxide (pCO₂) value is above 45 mmHg. The main mechanism is decreased CO₂ excretion as a result of alveolar hypoventilation and increased CO₂ in the blood. Compensation of respiratory events occurs metabolically. For this, the kidneys are involved; H⁺ ions are excreted and bicarbonate (HCO₃⁻) ions are retained. Metabolic compensation occurs slowly; optimally in 2-5 days [1-3]. We presented an 85-year-old patient who presented to the emergency department with chest pain, shortness of breath and tendency to sleep with bicarbonate levels, which are rarely seen in the literature.

Keywords: alkalosis, bicarbonate, compensation

CASE

An 85-year-old woman was brought to the emergency department by 112 teams with chest pain, shortness of breath, palpitations and a tendency to sleep. The chest pain was compressive. The patient was hospitalized in the pulmonology ward 10 days ago due to pneumonia. He was discharged 3 days ago. He had been complaining of cough and phlegm since his discharge. Chest pain and shortness of breath started today. He had known hypertension, diabetes mellitus, atrial fibrillation and dementia. The medications she was taking were enoxaparin 6000 IU 6 ml 2x1 s.c. , amlodipine 10 mg 1x1 p.o. , furosemide 40 mg 3x1 p.o. , diltiazem 60 mg 3x1 p.o. , warfarin sodium 5 mg 1x0,5 p.o. , candesartan +

hydrochlorothiazide 16,5 mg/12,5 mg 1x1 p.o. , gabapentin 600 mg 1x1 p.o. When she presented to the emergency room, her vital signs were as follows: blood pressure 83/56 mmHg, heart rate 108 beats/min, oxygen saturation 88%, body temperature 36.3°C. Electrocardiogram showed atrial fibrillation rhythm. On physical examination, the patient was tachypneic and dyspneic on inspection. Consciousness was evaluated as confused, nonoriented and noncooperative. Bilateral rales were heard on lung auscultation. Pretibial edema was absent. The patient was connected to a noninvasive mechanical ventilator (NIMV) without waiting for the blood gas result because he started to use the assisted respiratory muscles.

The laboratory tests were as follows:

Leukocyte	9,03 x 10 ³ /mm ³
C-Reactive Protein	6,58 mg/dL
Creatinine	2,61 mg/dL
Urea	119,40 mg/dL
Glomerular filtration rate (GFR)	17,63 ml/dk
Troponin I	1,12 ng/mL
Potassium	1,93 mmol/L

Table-1

Urinary ultrasonography was performed because of acute increase in creatinine and urea values, low GFR and oliguria. "The kidneys are in normal position and shape. The right kidney longitudinal dimension was 88 mm. and parenchymal thickness was 14 mm. The left kidney longitudinal dimension was 87 mm. and parenchymal thickness was 13 mm. Bilateral renal pelvicalisial system and parenchymal thickness are normal. Bilateral renal parenchymal echogenicity was reported as "grade I increased (parenchymal disease). Thorax computed tomography was performed due to respiratory distress. "Pneumonic infiltration areas were observed in the lower zone of the left lung. " was reported.

The arterial blood gas (ABG) results:

	On admission	ABG taken 1 hour later	ABG taken 24 hour later
pH	7,587	7,585	7,525
pO ₂	55,4 mmHg	68,2 mmHg	59,3 mmHg
pCO ₂	74,7 mmHg	67,1 mmHg	60,3 mmHg
HCO ₃ ⁻	70,9 mEq/L	61,8 mEq/L	47,5 mEq/L
Lactate	1,6 mg/dL	1,7 mg/dL	1,2 mg/dL
Base excess (BE)	43 mmol	36,5 mmol	24,1

Table-2

While the expected pH range of the patient with pCO₂: 74.7 mmHg in blood gas was below 7.40, HCO₃⁻: 70.9 mEq/L increased with renal compensation mechanism and pH: 7.587 was measured (Table-2). Frequent ABG monitoring was performed from the patient who was provided NIMV support in BPAP mode.

The patient was hospitalized in the respiratory intensive care unit due to hypercarbia and elevated bicarbonate in the blood gas.

DISCUSSION

A primary decrease in alveolar ventilation is responsible for the development of respiratory acidosis [4]. Respiratory acidosis is a clinical picture in which pH is below 7.35 and pCO₂ is above 45 mmHg [2-3]. The compensatory response to respiratory acidosis starts immediately with the buffering of H⁺ ions in the cell. Chronic compensation develops more slowly as the kidney increases its bicarbonate reabsorption capacity. Increased production of ammonia, an important urinary buffer, increases the excretion of hydrogen ions by the kidneys. Metabolic compensation occurs slowly; optimal occurs in 2-5 days [1-3]. Patients with acute respiratory acidosis resulting from obstruction of the large airways and acute pulmonary edema usually show agitation and disorientation, whereas patients with central nervous system

depression due to drugs, trauma, or infections are usually somnolent. Patients with chronic respiratory compensated acidosis are usually asymptomatic [4]. For every 10 mmHg increase in pCO_2 , HCO_3^- increases by 1 mmol/L and pH decreases by 0.08 [5]. The most important feature of our case is that this level of HCO_3^- levels has never been seen before in the literature. In a review of the literature, the highest level of 50.7 mmol/L was observed in one study [6].

Step 1 of the examination of acid-base balance: Acidosis-Alkalosis: Normal pH. Step 2: In a patient with normal pH but high pCO_2 (>45 mmHg), we should consider a mixed disorder. High pCO_2 (>45 mmHg) respiratory acidosis. In the acute event, for every 10 mmHg increase in pCO_2 , HCO_3^- increases by 1 mmol/L and pH decreases by 0.08. $74.7-40=34.7$, $34.7/10=3.47$; $HCO_3^- - 3.47$ mmol/L should increase and pH should decrease by 0.277. If we consider that the event was chronic, for every 10 mmHg increase in pCO_2 , $HCO_3^- - 3-4$ mmol/L would increase, pH would decrease by 0.03, and pH would never return to normal. In other words, HCO_3^- should have increased by 11.79 and pH should have decreased by 0.104. Since pH was normal and HCO_3^- increased much more than expected, metabolic alkalosis was added to the event [5]. In conclusion, ABG examination provides valuable information about the physiologic status of the patient. In order to make sense of these values, it is necessary to interpret blood gas results with a systematic approach. Different interpretation approaches can be seen in different sources. The important thing is to evaluate these results together with the patient's history, physical examination and laboratory findings [7].

CONCLUSION

As a result, in patients in whom respiratory acidosis is expected in ABG examinations, an increase in HCO_3^- is observed with a compensatory mechanism. Metabolic alkalosis is added to the picture. Detailed examination of all blood gas parameters is an important factor in determining our treatment protocol.

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8392

Mastoiditis And Meningitis Due To The Acute Otitis Media

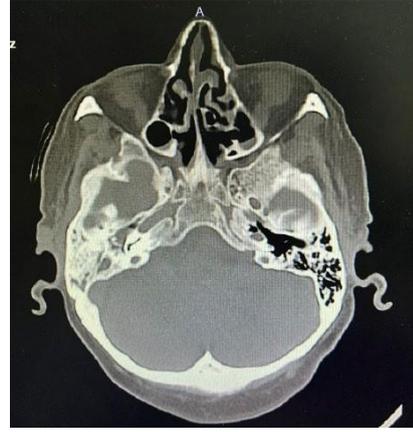
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Introduction and Purpose: Acute Otitis Media(AOM); vascular dilatation of the middle ear cavity; mucosal edema; exudation; It is an infection characterized by bacterial proliferation and pus formation.(1) AOM has intracranial and extracranial complications(1). Acute mastoiditis, one of the extracranial complications, is an infection of mastoid air cells that develops following AOM and is often accompanied by bone destruction. During infection, inflammation and edema develop in the mucoperiosteal lining of the mastoid air cells. The ventilation of mastoid cells is impaired and exudate begins to accumulate. As the exudate accumulates, it becomes purulent.(1) Meningitis, one of the intracranial complications, is the inflammation of the brain membranes called meninges. In this case report, Mastoiditis and Meningitis due to AOM are described.

Material and Methods: This case is a 62-year-old female patient diagnosed with Diabetes Mellitus who developed Mastoiditis and Meningitis after AOM. She was taken emergency service by his relatives due to her agitation. On examination,GCS:15,place-time orientation was impaired.Muscle strength in all four extremities was normal, and cranial nerve examinations were normal.Bilateral Babinski was positive.There was hyperemia on the right mastoid process. Neck stiffness could not be evaluated in the patient who was sedated because she was agitated. There was no fever response because antipyretic was given.There were signs of otitis and mastoiditis on the right side on CT. No diffusion restriction was detected in MRI. The LP was made. During LP, fingertip blood sugar was 348 mg/dL, CSF glucose was 39 mg/dL, and Microprotein was 749 mg/dL. Meropenem, Acyclovir and Vancomycin were started empirically. Streptococcus Pneumoniae was detected in CSF. Acyclovir was discontinued. She was admitted to intensive care.

Results and Conclusion: If AOM cases are left untreated or inadequately treated, complications may develop. Especially immunocompromised pediatric patients, diabetic patients, and those with malignancies are at greater risk. It is important to start appropriate antibiotic treatment at adequate doses in patients diagnosed with AOM.



Keywords: Acute Otitis Media, Mastoiditis, Meningitis, Complication

RESOURCES

1. Emre Ocak, Mustafa Balcıoğlu, Ozan Bağış Özgürsoy, İrfan Yorulmaz GIANT MASTOID ABSCESS: REPORT OF 2 CASES Journal of Ankara University Faculty Medicine 2011, 64(1)

8751

TITTLE: Liver laceration after blunt abdominal trauma in a patient using warfarin: Case report

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AUTHOR INSTITUTION: ¹ Department of Emergency Medicine, Balıkesir University Faculty of Medicine, Balıkesir

INTRODUCTION:

The most commonly affected solid organ in abdominal trauma is the liver. (1) The majority of liver injuries are minor injuries and it can be treated without surgery using techniques observation, embolization, etc. Approximately 14% of patients require surgery to manage liver injury, including cases that are initially hemodynamically unstable and cannot be successfully treated with nonoperative techniques. (2) Management of liver trauma requires a multidisciplinary approach including general surgery, interventional radiology, emergency department and intensive care physicians. (3)

CASE:

75-years-old female patient. She was presented with complaints of abdominal pain and confusion.

She fell from standing onto his right side 5 days ago. She hit the right side of his head and body. When she was admitted to the external emergency department (ED), no pathology was detected in the imaging performed and she was exterminated.

As the patient's complaints continued, she went different centers. Her complaints regressed with analgesic treatment. When her complaint of abdominal pain increased again, she applied to our ED.

Medical History: Congestive hearth failure, coronary artery bypass graft, mitrale valve replacement, parkinsonism, hepatitis-B

Medications she uses: Metoprolol succinate 50 mg, warfarin sodium 5 mg, spironolactone hydrochlorothiazde, atorvastanin calcium 25 mg, ketiapin fumarate, levodopa-benserazide hydrochlorur

Blood pressure: 92/54 mmHg Pulse: 139 beats/mins Temperature: 36°C SpO2: 99% GCS: 15

General condition was fair/poor, agitated. There was ecchymosis around the right orbit.

Ecchymotic area on the right side during abdominal inspection

There was widespread defense and rebound in the abdomen.

The patient's tests were requested and bedside focused assessment with sonography for trauma (FAST) was performed in the emergency department.

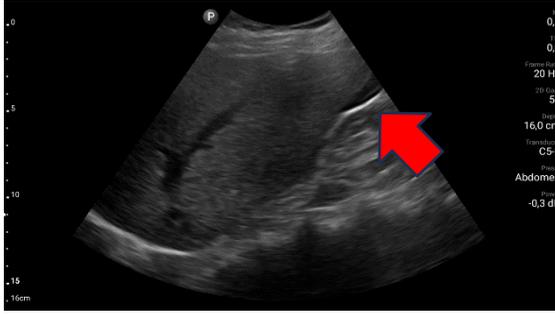


Figure 1 hepatorenal free fluid

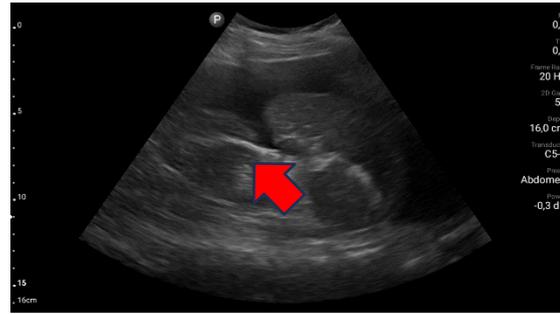


Figure 2 splenorenal free fluid



Figure 3,rectovesicale free fluid

There were hepatorenal free fluid, splenorenal free fluid and rectovesicale free fluid in FAST images.

The patient, who had physical examination findings and FAST positive, was started on hydration, blood replacement was prepared, and general surgery was consulted regarding the need for urgent surgery.

ABG: pH: 7,37 pCO₂: 33,5mmHg pO₂: 70,4mmHg ctHb: 5,1 g/dL sO₂: 95% cK⁺: 5,2mmol/L
cNa⁺: 137mmol/L cLac: 2,0mmol/L cHCO₃: 20,2mmol/L

WBC: 11,7x10³/μL RBC: 1,8x10⁶/μL HGB: 5,0g/dL HCT: 15%

K: 5,2mmol/L Na: 135mmol/L AST: 37IU/L ALT: 13IU/L GGT: 36IU/L Amilase: 73IU/L
Lipase: 27U/L Creatinine: 2,03mg/dL Üre: 108 mg/dL

INR: 1,60 PTZ: 18,5 sec aPTT: 25,8 sec

HBsAg: positive

IV dynamic contrast abdominal CT was requested by the general surgeon.

Contrast-enhanced abdominal CT scan revealed extensive free fluid around the liver and spleen. The stomach wall was observed to be edematous due to fluid. Cystic heterogeneous structures were observed in the fluid in the posterior neighborhood of liver segments 6-7. The gallbladder was slightly hydropic and the intrahepatic bile ducts were full.

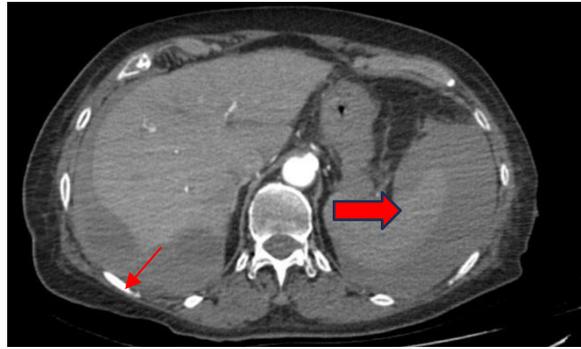


Figure 4 Abdominal CT image with IV contrast. The areas shown with arrows are widespread free fluid areas around the liver and spleen..



Figure 5 Contrast-enhanced abdominal CT image. Areas indicated by arrows indicate free fluid in the pelvis.

In contrast-enhanced thorax CT examination, an increase in heart size was observed. Bilateral minimal effusion was observed. Subpleural shrinkage and mild compressive atelectatic changes were observed adjacent to the effusion.

The patient was started on 0.9% NaCl infusion. Blood was obtained from the center, erythrocyte suspension and free frozen plasma were started with massive transfusion protocol. The patient was taken into emergency surgery by general surgery.

DISCUSSION:

Patients who present with blunt abdominal trauma and use anticoagulant drugs due to accompanying morbidities should be followed up more frequently. Cases that are asymptomatic initially should be closely monitored with strict vital monitoring and repeated physical examinations. For the emergency department management of hemodynamically unstable patients, it is important to quickly obtain expert opinion in terms of imaging, treatment, blood preparation and surgical requirements.

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8943

Evaluation of Triage Decision-Making Competency of Emergency Healthcare Providers: A Self-Assessment Inventory Study

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Samsun, Turkey.

ABSTRACT

Introduction:

Emergency departments are areas where the speed and accuracy of patient care are of critical importance. In this context, triage plays a vital role in the process of classifying and prioritizing patients according to their urgency. Nurses and paramedics are at the forefront of this process and assess patients admitted to the emergency department. This study is planned in two phases, the first phase aims to enable participants to perform self-assessment on triage and the second phase aims to measure their skills on this subject.

Materials and Methods:

This study was planned to be conducted with nurses and paramedics working in the pediatric and adult emergency departments of Ondokuz Mayıs University Health Practice and Research Hospital. Participants were selected voluntarily and informed about the aims of the study.

The questionnaire consists of two parts. The first part included a 13-item questionnaire about the sociodemographic characteristics of the participants and the characteristics of the working environment. The second part consists of a 37-item scale called "Triage Decision-Making Inventory". This inventory measures the triage competencies of emergency department healthcare providers in three main categories: cognitive, critical thinking, and experience, and will be evaluated using categories including decision-making, prioritization, performance under stress, and experience and confidence levels in triage processes.

The data collection process was carried out by sending the participants the link to the "Google Forms" online survey form. The collected data were analyzed using IBM SPSS (Statistical Package for the Social Sciences) v.21 software. Descriptive statistics were used to provide an

overview of the demographic characteristics and triage decision-making competencies of the participants and are presented as percentages.

Results and Conclusion:

Fifty nurses and paramedics voluntarily participated in the study. Institutional consent and local ethics committee approval were obtained. The sociodemographic and work environment characteristics of the participants are summarized in Table 1. Participants' responses to the triage decision-making inventory are shown in Figure 1.

As a result, this study shows the self-evaluation of nurses and paramedics working in the tertiary emergency department about triage and their level of knowledge about triage.

Keywords: emergency department, triage, emergency health services

Table 1. Sociodemographic and work environment characteristics of the participants

Variable	Number of Participants (n)	Percentage (%)
Age (year)		
20-25	8	16
26-30	19	38
31-35	11	22
36-40	5	10
41-45	4	8
>46	1	2
Gender		
Male	20	20
Female	30	60
Marital status		
Married	32	64

Single	18	36
Family type		
Nuclear family	47	94
Extended family	3	6
Number of children		
No children	13	26
One child	14	28
More than two children	16	32
Type of work		
Continuous daytime	6	12
Night shift	43	86
24 hour follow-up	1	2
Preferring the job voluntarily		
Yes	44	88
No	6	12
Loving the job		
Yes	43	86
No	1	2
Undecided	6	12
Satisfaction with the department they work in		
Satisfied	21	42
Slightly satisfied	23	46
Not satisfied	6	12
Working hours per week		
30-35	2	4

36-40	36	72
41-45	7	14
46-50	5	10

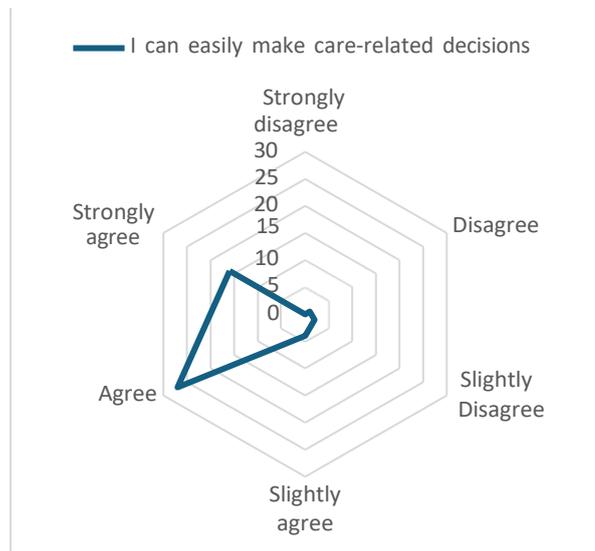
Average number of patients admitted to the emergency department per day

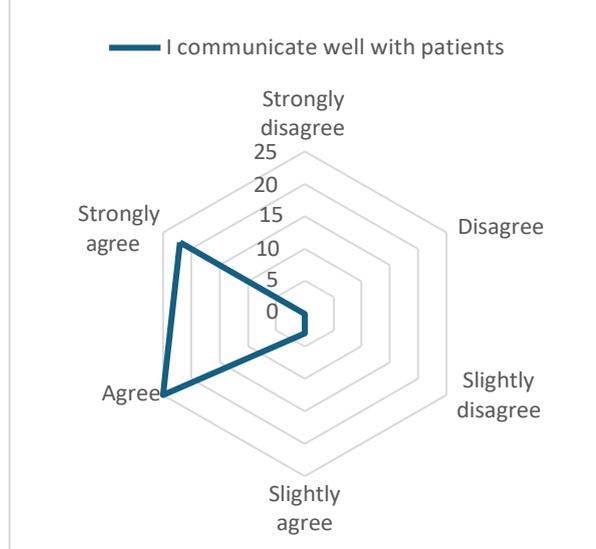
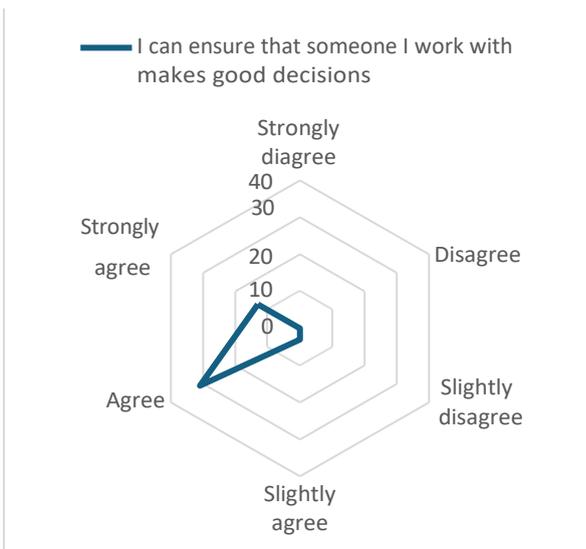
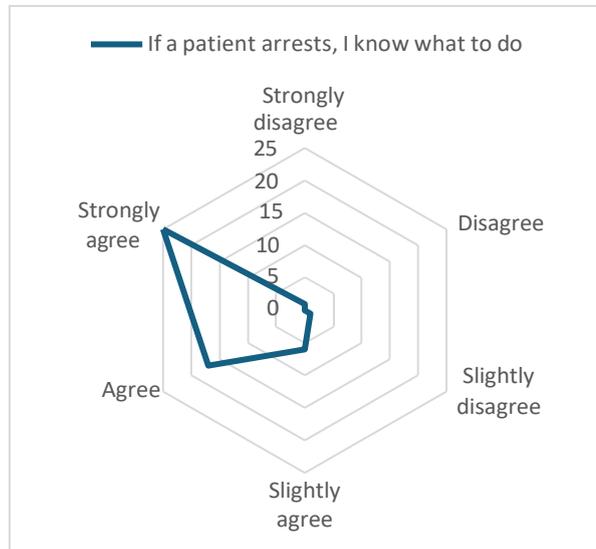
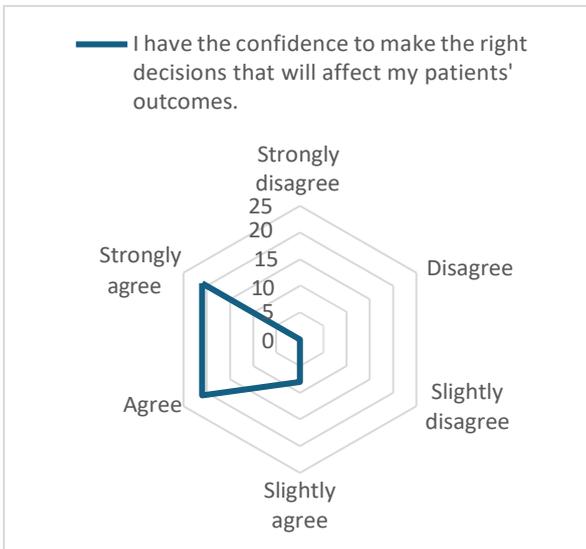
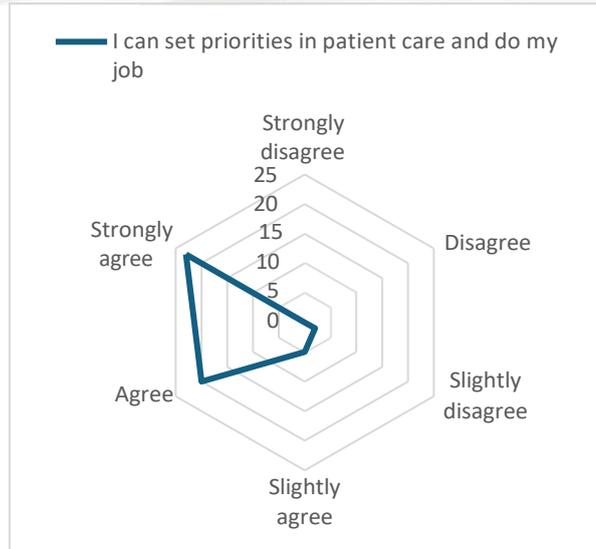
0-500	31	62
501-1000	18	36
>1001	1	2

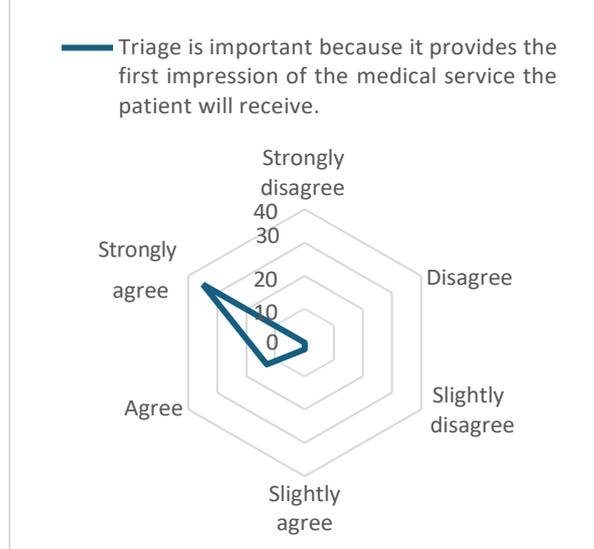
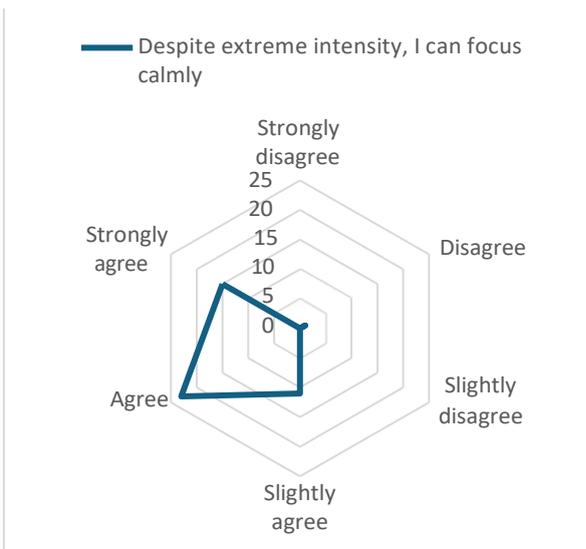
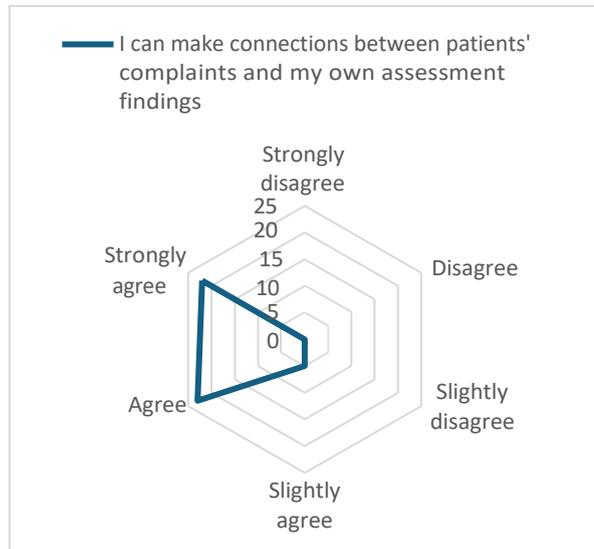
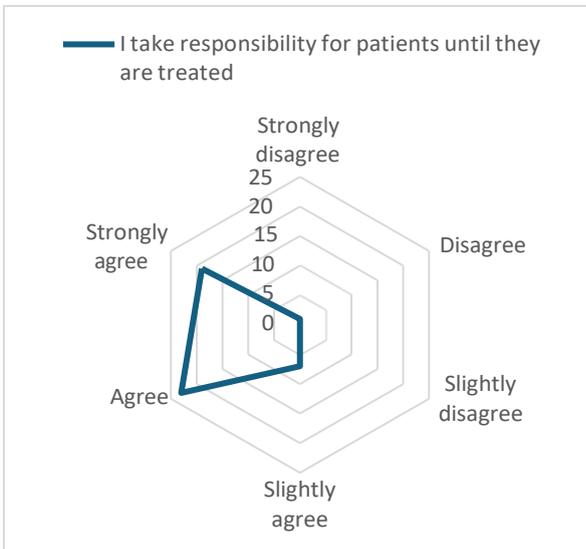
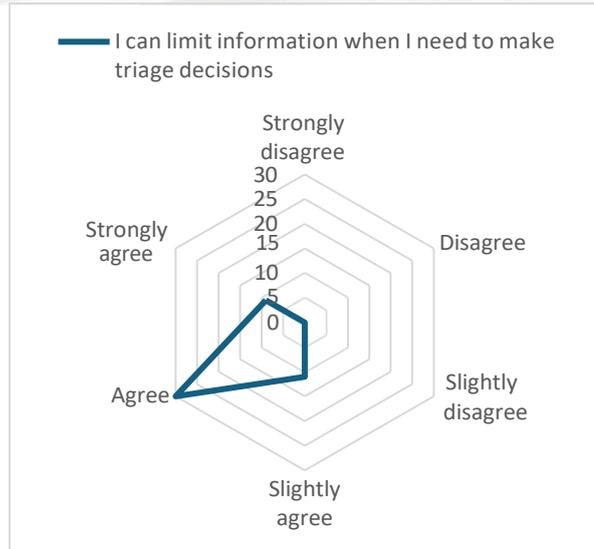
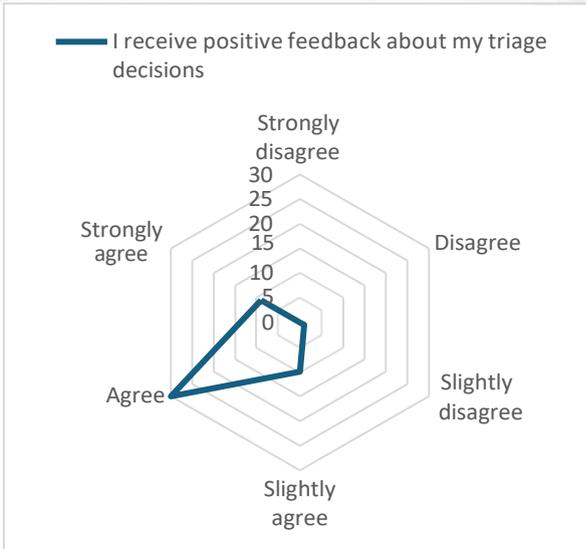
Have you been trained in triage?

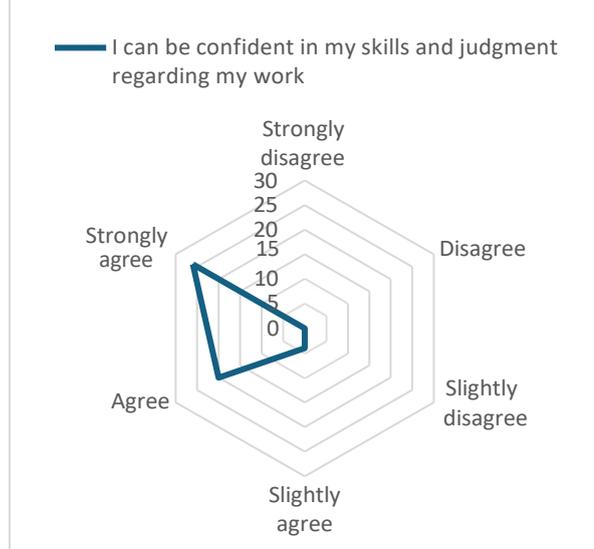
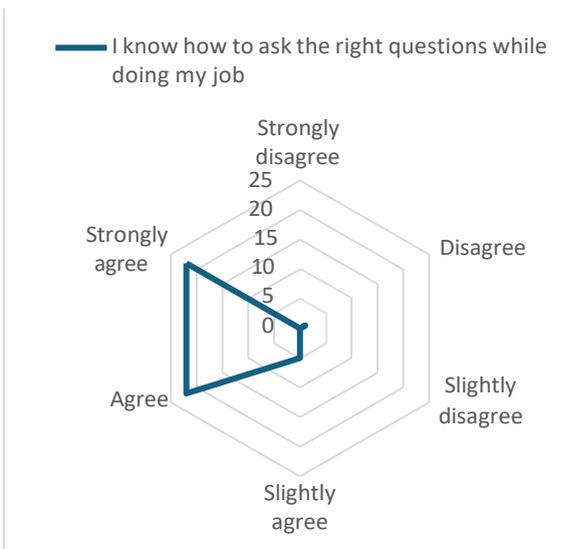
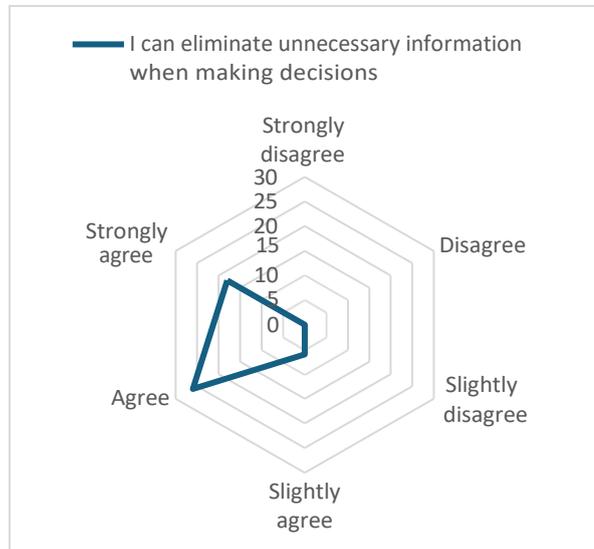
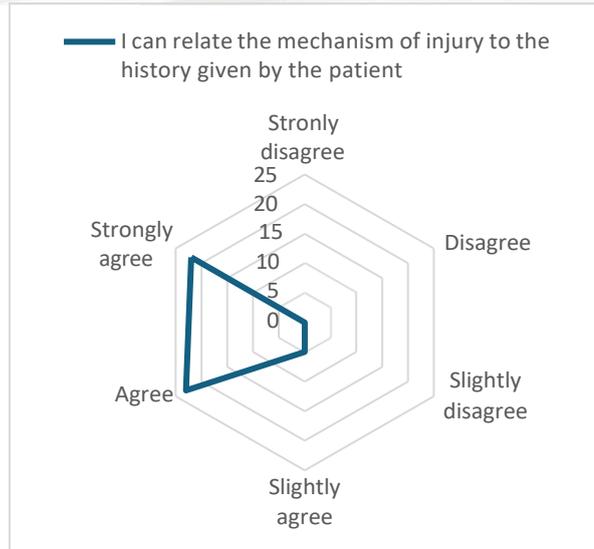
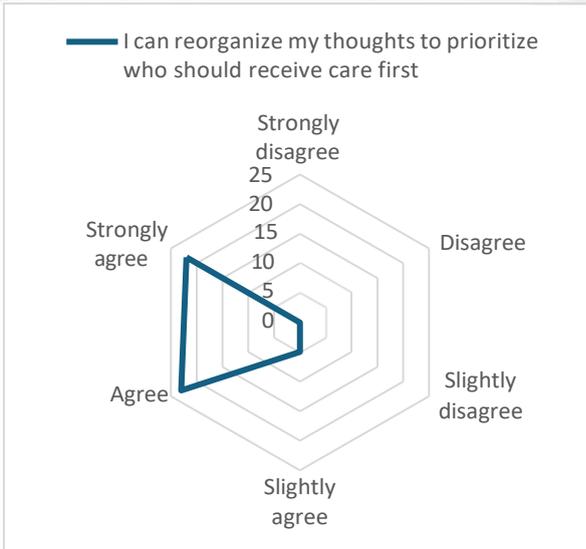
Yes	35	70
No	15	30

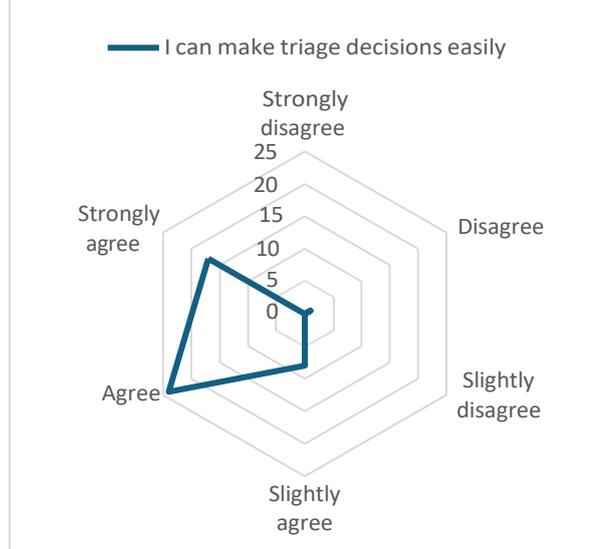
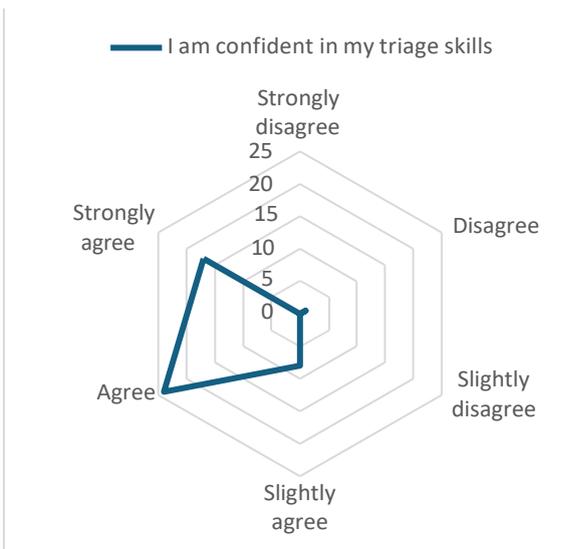
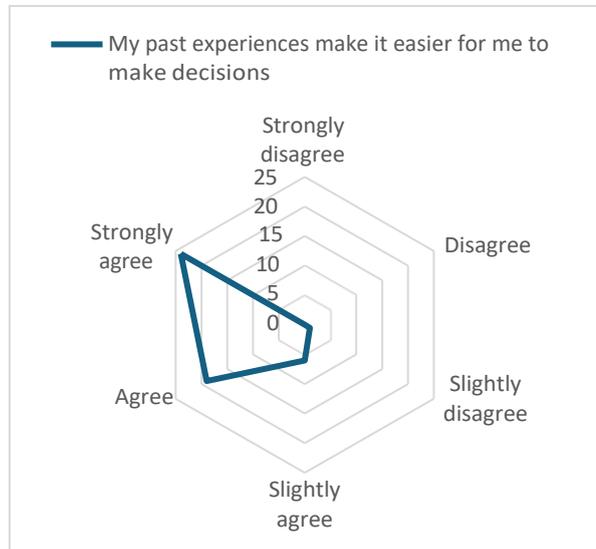
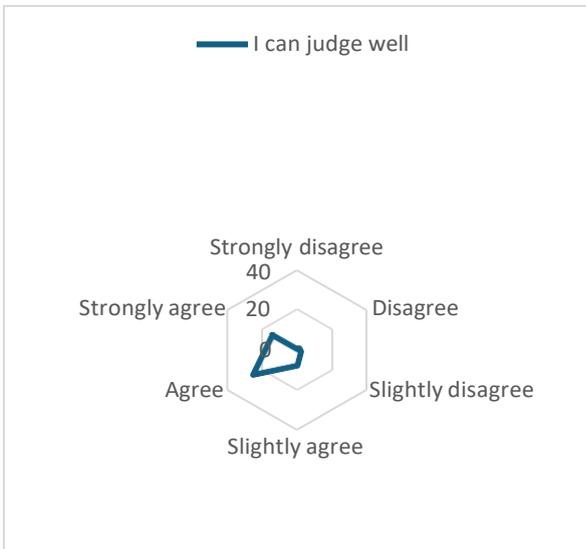
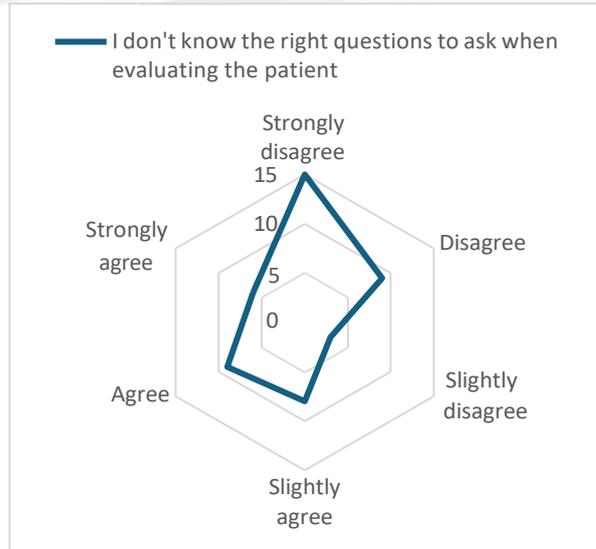
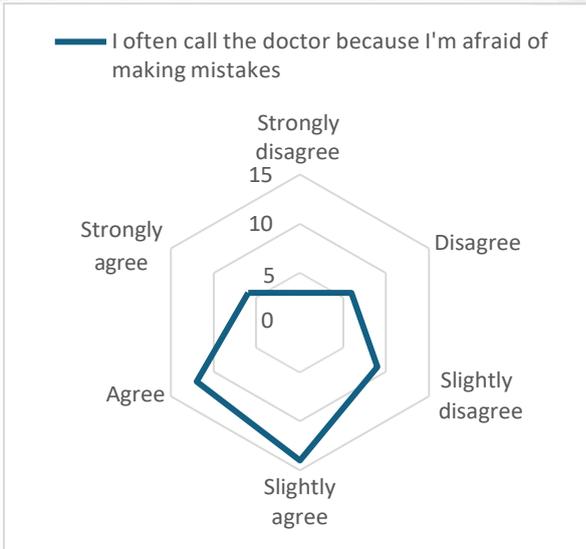
Total	50	100
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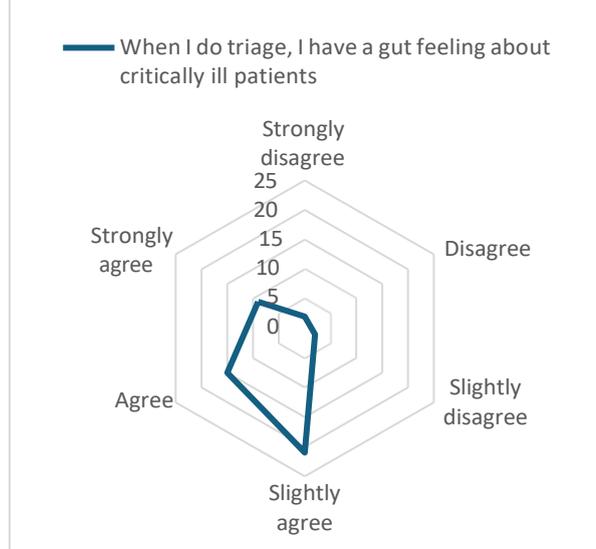
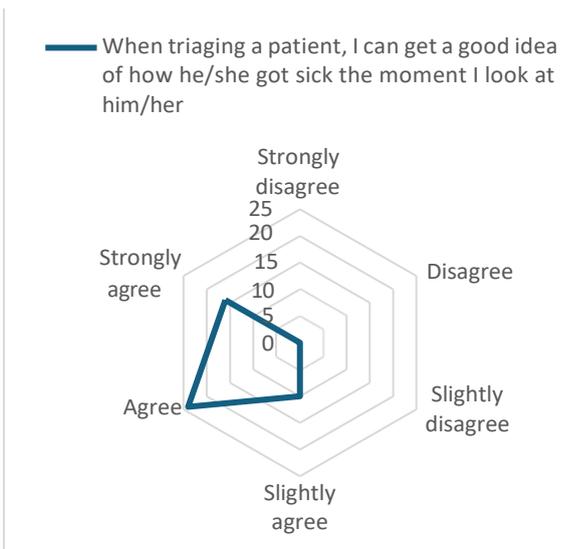
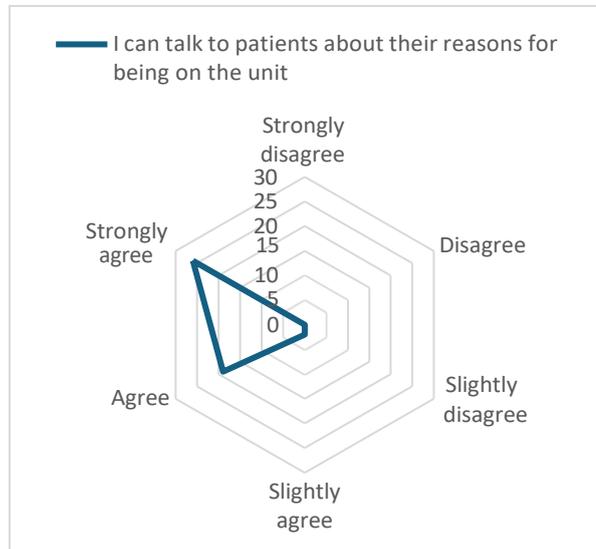
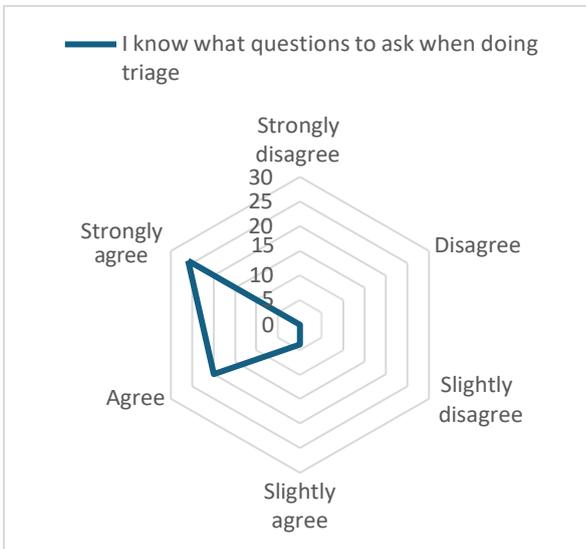
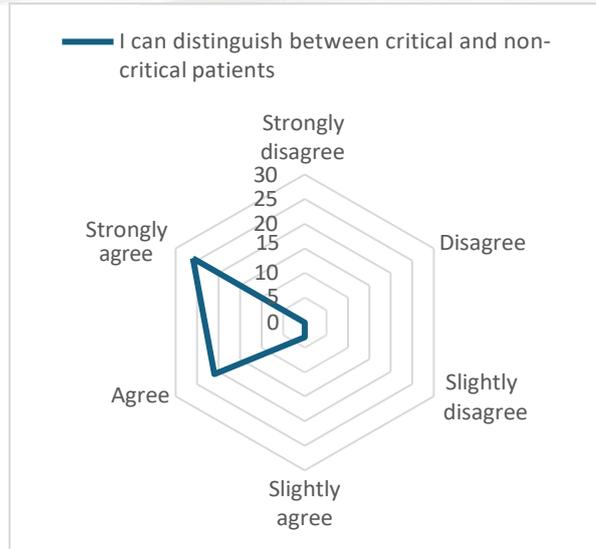
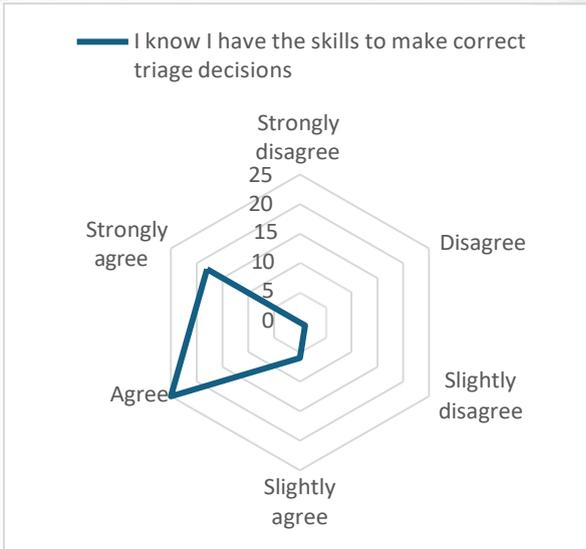




Figure 1. Participants' responses to the triage decision-making inventory

A Case of Acute Mesenteric Ischemia with Indirect Findings

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Abstract

Introduction

Acute mesenteric ischemia is a disease with high mortality, characterized by interruption of blood flow to the intestine. Generally, patients present with severe abdominal pain. CT angiography is important in making the diagnosis. In this case, a case in which mesenteric ischemia was diagnosed with indirect findings in a patient who could not undergo angiography will be described.

Case

An 86-year-old male patient presents with a complaint of abdominal pain that has been going on for about three days. Abdominal tomography revealed air density in the portal vein, pneumatosis intestinalis and an increase in intestinal wall thickness. Although the patient was consulted to a general surgeon and an emergency surgical intervention was recommended, the patient refused. The patient died during follow-up in the emergency room.

Discussion

Acute mesenteric ischemia is characterized by ischemia and necrosis that develop because of interruption of blood supply to the small intestines. Early diagnosis and surgical intervention influence mortality. CT angiography is important to evaluate vascular pathology. Depending on the patient's clinical condition, surgical intervention or intensive care follow-up may be planned.

Conclusion

Although acute mesenteric ischemia is rare, it is a disease with a high mortality rate. Clinical suspicion, physical examination and abdominal imaging make it easier to make the diagnosis.

Keywords: Mesenteric ischemia, hepatic portal venous gas, pneumatosis intestinalis

Giriş

Akut mezenterik iskemi, bağırsağın çeşitli bölümlerine kan akışının kesilmesiyle karakterize edilen, iskemi ve ikincil inflamatuvar değişikliklere yol açan bir grup hastalıktır. Tedavi edilmezse bu süreç yaşamı tehdit eden bağırsak nekrozuna kadar ilerleyebilir. İnsidans düşüktür, tüm akut cerrahi başvuruların %0,09-0,2'si olduğu tahmin edilmektedir ancak yaşla birlikte artmaktadır. Erken tanı ve zamanında cerrahi müdahale yüksek mortaliteyi azaltmak için modern tedavinin temel taşlarıdır (1).

Hastalarda muayene ile uyumlu olmayan şiddetli ağrı olabilir. Fizik muayenede batında yaygın hassasiyet, defans, rebound, bağırsak seslerinde azalma olabilir. Laboratuvar değerlerinde d-dimer ve laktat yüksekliği görülebilir. Batın patolojilerini değerlendirebilmek için ultrasonografi, batın grafisi, batın tomografisi kullanılabilir. Batın anjiografide vasküler patolojiler ayrıntılı değerlendirilebilir.

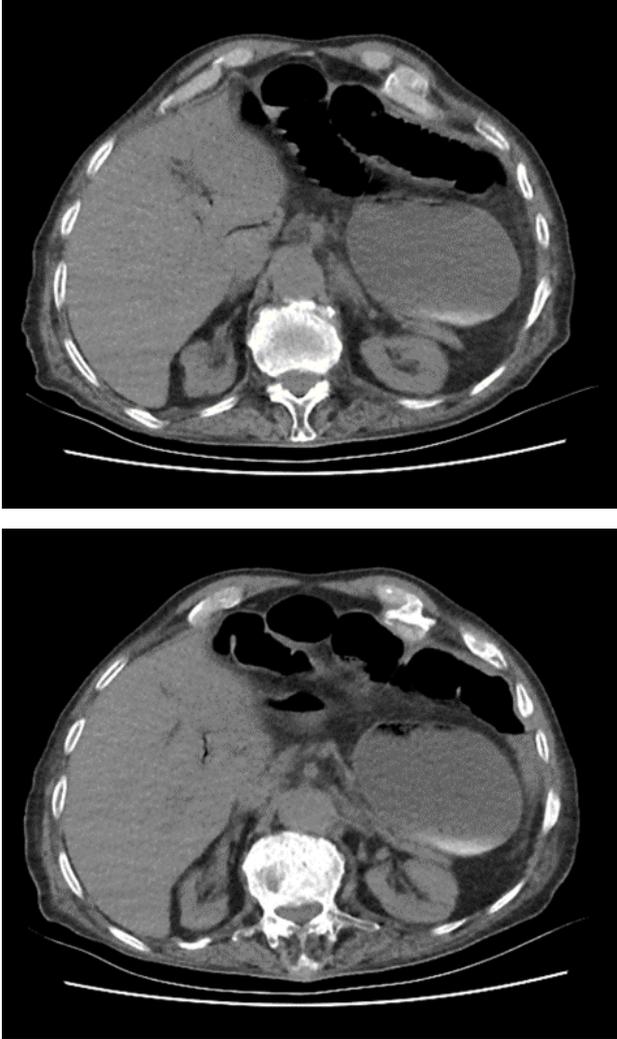
Bu olgumuzda batın anjiografi yapılamayan hastaya iskeminin indirekt bulguları ile tanı konuldu.

Olgu

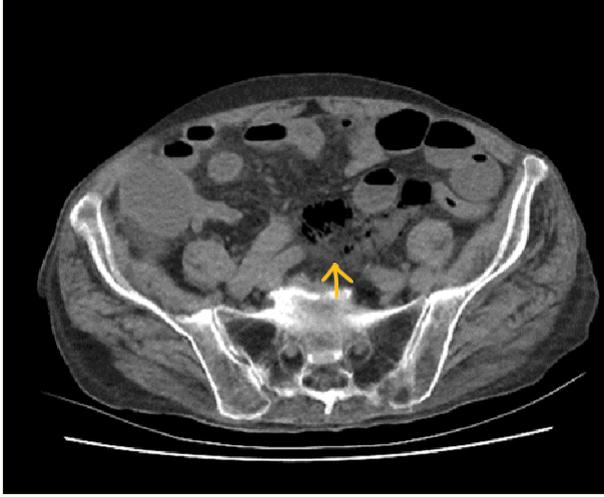
86 yaşında erkek hasta akut batın kliniği ile dış merkezden acil servisimize sevk edildi. Üç dört gündür karın ağrısı, ishal, oral alım azlığı olan hasta gece bulantı ve kusması arttığı için hastaneye başvurmuş. Özgeçmişinde hipertansiyon, benign prostat hipertrofisi tanıları mevcuttu. Yapılan muayenede vücut ısısı 37.2°C, nabız 88 atım/dk, oda havasında oksijen saturasyonu %96, solunum sayısı 33/dk ve kan basıncı 90/60 mmHg idi. Akciğer sesleri bilateral doğal idi. Karında distansiyonun yanında tüm kadrantlarda hassasiyet, defans ve rebound bulgusu saptandı. Bağırsak sesleri hipoaktif, idrar çıkışında azalma mevcuttu. Laboratuvar incelemelerinde kreatinin 3.34 mg/dL, üre 158 mg/dL, crp 265 mg/dL, kan hazında ph 7.21, bikarbonat 13.3 mEq/L, karbondioksit 34.4 mmHg, laktat 5 mmol/L, baz açığı -12.7 idi.

Acil serviste yapılan ultrasonografisi gaz nedeniyle net değerlendirilemedi. Ayakta düz karın grafisinde hava sıvı seviyeleri mevcut idi. Kontrast madde verilmeden çekilen batın tomografisinde ince bağırsak anslarında hava sıvı seviyeleri, bağırsak duvar kalınlığında artış, pnömatozis intestinalis (ince ve kalın barsak subseroza ve submukozasında çoklu gaz dolu

kistler) ve hepatic portal vende gaz görünümü saptandı. Bu bulgularla hastada mezenterik iskemi ön planda düşünöldü (Şekil 1, 2). Genel cerrahiye konsölte edildi. Acil cerrahi girişim önerildi. Hasta ameliyatı kabul etmedi ve acil serviste takibi esnasında yaşamını yitirdi.



Şekil 1. Portal vende hava imajları



Şekil 2. Bağırsak duvar kalınlık artışı ve lümeninde hava sıvı seviyelenmeleri, pnömatozis intestinalis (turuncu ok)

Tartışma

Akut mezenterik iskemide her ne kadar acil servislerimizde nadir rastlanılsa da karın ağrısı ayırıcı tanısında sürekli olarak aklımızda bulunması gereken bir hastalıktır. İnce bağırsakların kanlanması ani şekilde kesilmesi sonucu iskemide, hücresel hasar ve nekrozla sonuçlanan oldukça yüksek mortal bir durumdur. Erken tanıya ulaşmak için yüksek bir şüphe gereklidir. BT anjiyografi yüksek özgünlük ve duyarlılık özellikleriyle akut ve kronik mezenterik iskemide ilk yapılması gereken görüntüleme yöntemi olarak kabul edilmelidir.

Hepatik portal vende gaz (HPVG) oluşumunda mezenterik iskemili hastalarda oluşan mukozal harabiyet, transmural iskemide, bağırsakların distansiyonu ve travmada artmış karın içi basınçtan dolayı intraluminal gazın portal sisteme geçmesi ana nedenlerdendir (2). Pnömatozis intestinalis ile hepatik portal vende gaz olguları %70-80 oranında birlikte görülebilir (3). Portal venöz gaz (PVG) ciddi prognozla ilişkili nadir bir bulgudur. HPVG, bağırsak duvarı içindeki gaz olan pnömatozis intestinalis ile ortaya çıkar. Hepatik portal vende gaz, crohn hastalığı, ülseratif kolit, graft-vers-host hastalığı, bağırsak tıkanıklığı, psödo-obstrüksiyon, bakteriyel apseler, divertikülit, parolitik ileus, süpüratif kolanjit gibi birçok ölümcül olmayan durumda rapor edilmiştir (4).

PVG çeşitli patolojik durumlarla ilişkilidir ve klinik önemi benign bulgulardan bağırsak nekrozuna kadar değişir. PVG'nin en sık görülen altta yatan patolojisi bağırsak nekrozunu içerir. Bağırsak nekrozu PVG ile ilişkili en kritik durumdur ve acil laparotomi gerektirir. Bununla

birlikte, BT ve ultrasonografi de dahil olmak üzere görüntüleme yöntemlerindeki son gelişmeler, küçük miktarlarda PVG'nin bile saptanmasına olanak tanıyarak, rapor edilen vakaların sayısında artışa ve genel mortalite oranının azalmasına neden olmaktadır (5). İskeminin geç döneminde bozulan organ fonksiyonları dolayısıyla anjiyografi planlanamasa da bu indirekt bulgular eşliğinde tanı konulması kolaylaşmıştır. Bu olgumuzda hastaya hastane başvurusundan kısa süre sonra tanı koyulmuş olup hastanın cerrahi girişimi kabul etmemesi dolayısıyla ameliyat yapılamamış ve hasta kaybedilmiştir.

Sonuç

Akut mezenter iskemi acil serviste nadir görülse de aklımızdan çıkmaması gereken bir durumdur. Erken tanı koyulması ve cerrahi müdahale mortaliteyi azaltmak açısından önemlidir. Tanıya hastanın anamnezi, fizik muayenesi ve batin görüntülemeleri ile ulaşılabilir.

Kaynaklar

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**EVALUATION OF PATIENTS ACCORDING TO THE TIME OF SUICIDE ATTEMPT:
THE CASE OF
INTERIOR ANATOLIA**

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ABSTRACT OBJECTIVES: In this study, we aimed to evaluate the relationship between gender and

arrival times of patients with suicide attempts in the emergency department of our hospital.

METHODS: Patients aged 18 years and older who were admitted to the Emergency Department of

the Department of Emergency Medicine, Niğde Ömer Halisdemir University Faculty of Medicine

between April 2023 and April 2024 with suicide attempts were included. Accidents, drug intoxications and non-drug suicides without suicidal intentions were not included in the study.

CONCLUSIONS: In this study, 44 suicide cases admitted to our emergency department between April

2023 and April 2024 were cross-sectionally analyzed.

The mean age of the patients was 25+_ 5.3 years and 75% of the patients were female. The arrival

times of the patients were designed as 08:00-19.59 (1st group), 20:00-07:59 (2nd group). There was

no significant relationship between gender and arrival times. $p>0.05$ was determined.

In conclusion, it can be said that there is no significant relationship between gender and arrival times

of the patients, and the mortality risk of drug intake is low compared to violent suicides.

Keywords: gender, Emergency service, Suicide

INTRODUCTION:

The act of ending one's life by one's own will is called suicide. Attempting to commit suicide is called

suicide attempt (1). Gender is one of the main factors in suicide attempts. Studies have shown that

female suicides are higher than male suicides (2). However, deaths due to suicide are higher in men.

Şenol et al. found the female/male ratio to be 1.7 in their study in Kayseri (3). It has been reported

that suicide attempts are more common in women than in men, in single and widowed people than

in married people, and in uneducated people than in educated people (4,5).

MATERIALS and METHODS:

When the calculated data were evaluated, SPSS.22 (Statistical Package for Social Sciences) for Mac

(SPSS Inc., Chicago, IL, USA) program was used for statistical analysis. Means were shown with

standard deviations. Statistical analysis of qualitative variables was performed with the "chi-square"

test. Results were considered statistically significant at $p < 0.05$.

RESULTS:

The mean age of the patients was 25 ± 5.3 years and 75% of the patients were female. The arrival

times of the patients were 08:00-19:59 (1st group), 20:00-07:59 (2nd group). There was no significant

relationship between gender and arrival times. There were no deaths in our patients.

CONCLUSION:

Poisoning is defined as the result of ingestion of a toxic substance that may harm the body in different ways. It has been reported that 12.5% of oral poisonings occur as a result of suicide attempts resulting in death.(3) In our study, we had no death cases. We think that early access to

health institutions, the fact that our city is a small city in terms of population and the fact that our

hospital is a 3rd level hospital are the main reasons for the absence of death.

In terms of gender, female gender dominance is present in suicide attempts in accordance with the

literature (6).

The hours of suicide were seen to be mostly in the evening hours in the literature. In our study, the

day was evaluated in two 12-hour periods.(3-5) Therefore, contrary to the literature, no difference

was detected between time periods.

Generally, suicide attempts are common in 20-30 years of age. Our study was consistent with the

literature and the average age of our cases was between 20-30 years.(7)

As a result, it can be said that there is no significant relationship between gender and the time of

arrival of the patients, and the mortality risk of drug intake is low compared to violent suicides.

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A rare disease in the emergency department

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Introduction

Creutzfeldt-Jakop Disease (CJD) is a rare, untreatable and progressive neurodegenerative prion disorder caused by misfolded prion proteins, resulting in fatal infectious subacute spongious encephalopathy. There are 4 types: sporadic, familial, acquired and variant. The average age of onset is 60. It is characterized by rapidly progressive neuropsychiatric symptoms and movement disorders (1). We aimed to present our case, which is seen one in a million and is similar to the symptoms of other neuropsychiatric diseases, due to its rare diagnosis.

Case

57-year-old male patient of foreign nationality. Complaints of impaired walking, tremors, forgetfulness, dizziness, slurred speech, inability to recognize relatives, and decreased ability to eat and drink began approximately 2 months ago. While he could walk with support until the last week, he can no longer walk. Thereupon, they applied to our emergency service.

On physical examination, the general condition was poor, the eyes were open spontaneously, there was no orientation and cooperation, the light reflex was +/+, the pupils were isochoric, and there was no facial asymmetry. The upper extremities were spontaneously mobile and there was spasticity. It was determined that there was tremor in the right upper extremity. There was no response to painful stimuli in the lower extremity. Plantar skin reflex, bilateral flexor and cerebellar tests could not be evaluated. There was no neck stiffness, body temperature was 36.5 C0. In laboratory findings, WBC 7.26 10³ µl HGB 12.5 g/dl PLT152 10³ µl Glucose 137 mg/dl AST 58 U/L, ALT 31 U/L, CK 678 U/L, Total Bilirubin 1.4 mg/dl, Na 138 mmol/L, K 4.1 mmol/L, CRP 163.04 mg/dl, hsTroponin T 18.7 ng/L

Diffusion MR taken in the emergency room showed symmetrical T2 FLAIR hyperintensity and edematous appearance in the head of the caudate nucleus, putamen and thalamus in both cerebral hemispheres. In diffusion-weighted images, there was diffusion restriction in these areas (Figure 1).

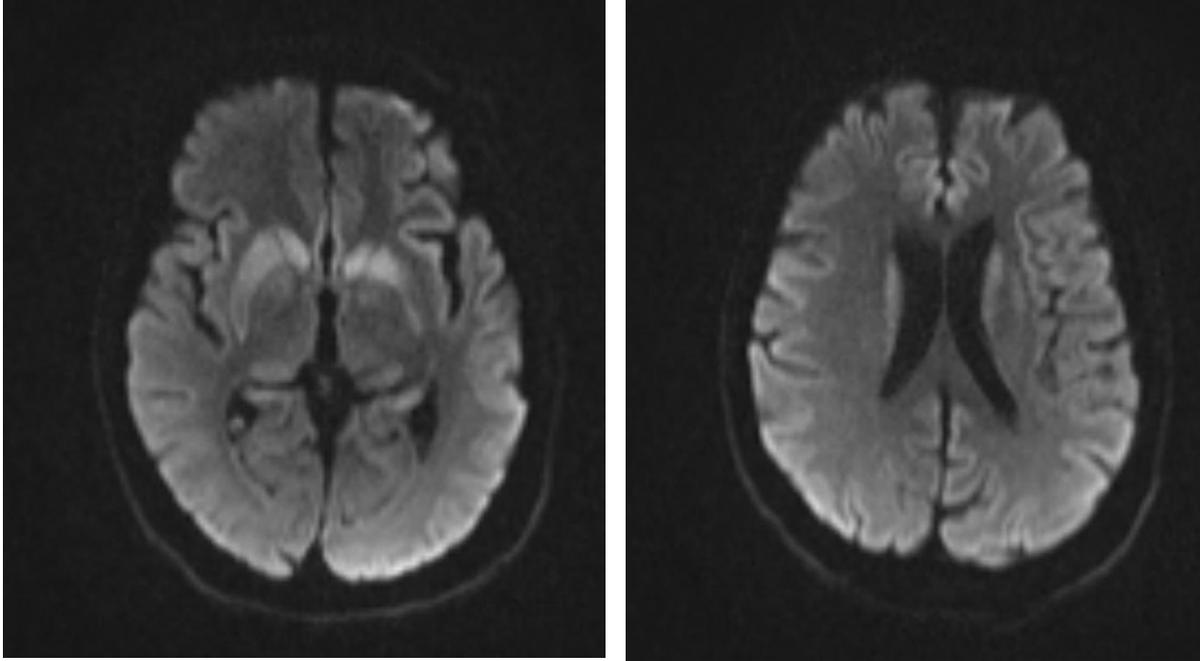


Figure 5 MR images of patient

Discussion

CJH is the most common human prion disease classified according to its causes (2). It is the most common form of sporadic CJH (approximately 85-90% of reported cases). No underlying cause or associated risk factor has been found in sporadic ones. Cases reported as familial occur in approximately 10% of those classified according to their cause (3,4). The form described as acquired was first described in 1974 when it was transmitted iatrogenically through corneal transplantation (5,6). It can be transmitted through instruments or direct contact with infected tissues and fluids (e.g., transplants, blood products, dural grafts, intracerebral electrodes, human growth hormone from cadavers) (4). As a result of the data we obtained from our patient, a cause and associated risk factor could not be identified.

After a prodromal period, deterioration in cognitive functions and rapidly progressive dementia occur. In addition to dementia, cerebral findings such as pyramidal and extrapyramidal symptoms and ataxia are also observed most frequently. In advanced stages of the disease, myoclonus is often accompanied (7).

In the early stage of CJD, cognitive decline and myoclonus may be mild and the diagnosis may be missed because they do not meet the current criteria. Its symptoms may be confused with other neurodegenerative diseases, viral encephalitis, dementia, Lewy body dementia, Alzheimer's, and autoimmune diseases (6).

In our presented case, there were no physical examination and laboratory findings to confirm conditions that may cause other central nervous system infections. The presence of typical findings on MRI images and the rapid progression of symptoms excluded other diseases that could cause dementia, which should be considered in the differential diagnosis.

In our case, one of the criteria specified in the World Health Organization diagnostic criteria; CJH was diagnosed because the duration was less than 2 years, there were typical findings on imaging, and it was accompanied by progressive dementia, pyramidal and extrapyramidal dysfunction, ataxia, myoclonus, and akinetic mutism (8).

Conclusion

When diagnosing neuropsychiatric cases, it should not be forgotten that this rare CJD should be taken into consideration in patients with progressive dementia and typical imaging findings.

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Keywords : Creutzfeldt-Jakop disease(CJD), Emergency department, Prion

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Introduction

Rhabdomyolysis presents a significant challenge in Pediatric Emergency Medicine due to its intricate diagnostic and therapeutic complexities. This condition, characterized by the breakdown of striated muscle fibers and subsequent release of myoglobin, creatine phosphokinase (CK), and other intracellular constituents into the circulatory system, requires careful management, especially in young children. The exact prevalence of pediatric rhabdomyolysis remains uncertain. While this condition is relatively frequent in pediatric populations, its occurrence becomes markedly infrequent in toddlers, especially those under the age of 2, highlighting a specific area of concern within this age demographic. The etiological spectrum contributing to childhood rhabdomyolysis is broad, encompassing factors such as viral myositis, trauma, physical exertion, pharmacological agents, toxins, metabolic disorders, and electrolyte imbalances (1). In this context, understanding and addressing traumatic rhabdomyolysis in toddlers is paramount, as it poses unique diagnostic and therapeutic challenges specific to this age group. Through the examination of cases involving traumatic rhabdomyolysis in toddlers, this report aims to shed light on these complexities and contribute to the body of knowledge surrounding pediatric rhabdomyolysis management.

Case presentation

Cases were presented including demographic characteristic, hospital course, diagnosis, clinical and laboratory outcomes (Table 1).

Case 1:

The 10-month-old girl patient presents with a case of injury due to a heavy television falling onto her. The overall condition is poor and assessed using the AVPU scale indicating an unresponsive state. Vital signs indicate a blood pressure of 80/50 mmHg, a body temperature of 36.7°C, a heart rate of 100 beats per minute, and a respiratory rate of 35 breaths per minute. The past medical history is unremarkable. At the initial assessment, the patient was intubated to secure the airway. During the secondary evaluation, signs of crush trauma were observed on the patient's body. Subsequently, routine trauma laboratory tests were conducted, and imaging studies were performed. The CT brain imaging revealed the presence of a subarachnoid

hemorrhage. Laboratory analysis revealed a hemoglobin level of 11.8 g/dL, a white blood cell count of $31.5 \times 10^3/uL$, a platelet count of $132 \times 10^3/uL$, an AST level of 168 IU/L, alongside unremarkable renal and electrolyte levels. The CK level was measured at 1258 IU/L. The patient was admitted to the intensive care unit. A medical treatment plan was devised without surgical intervention. Subsequently, the patient received parenteral fluid support, dopamine infusion, and hypertonic solution for anti-edema treatment. On the second day of intensive care monitoring, the patient suffered a cardiac arrest, and despite receiving appropriate CPR, revival efforts were unsuccessful.

Case 2:

The 23-month-old girl, initially admitted to a rural hospital due to extensive third-degree burns, underwent intubation and insertion of Foley and femoral catheters due to her overall poor condition. Following these initial interventions, she was transferred to our ED via ambulance. Assessment using the AVPU scale revealed an unresponsive state. Upon admission, vital signs indicated hypotension, with a pulse rate of 50 beats per minute. Physical examination revealed burned body hair and widespread edema, including in the tongue and oropharynx. Subsequent to routine trauma laboratory tests, the patient received a 1000cc Ringer Lactate IV bolus, followed by an infusion of 85cc/hour Ringer Lactate IV. As a prophylactic measure, the initial dose of ampicillin-sulbactam IV was administered. Adrenaline infusion was initiated at a rate of 1cc/hour IV. Escharotomy was performed on the lower extremities. Concurrently obtained laboratory results for the patient revealed a hemoglobin level of 12.1 g/dL, a white blood cell count of $34.7 \times 10^3/uL$, a platelet count of $281 \times 10^3/uL$, and an AST level of 166 IU/L, alongside unremarkable renal and electrolyte levels. The CK level was measured at 1521 IU/L. Unfortunately, the patient experienced a cardiac arrest and, despite receiving appropriate CPR, could not be resuscitated in the ED.

Case 3:

The 6-month-old boy patient was admitted following a motor vehicle collision, presenting with severe trauma. Upon assessment, the patient exhibited verbal response on the AVPU scale, indicating a certain level of consciousness. Vital signs upon admission revealed a blood pressure of 107/57 mmHg, a body temperature of 36.5°C, a heart rate of 128 beats per minute, and a respiratory rate of 34 breaths per minute. The patient's past medical history was unremarkable. Physical examination revealed alarming signs of injury, including altered

consciousness, isocoric pupils with intact light reflex in both eyes, bulging frontal fontanelle, and ecchymoses on both legs. Additionally, abdominal distension and tachypneic respiratory sounds were noted. Following the initial assessment, routine trauma laboratory tests and imaging studies were performed, revealing the presence of a subdural hemorrhage. Laboratory analysis unveiled values indicative of trauma, including a hemoglobin level of 9.5 g/dL, a white blood cell count of $32.5 \times 10^3/\mu\text{L}$, a platelet count of $519 \times 10^3/\mu\text{L}$, and an AST level of 119 IU/L. Elevated CK levels were also observed, measuring at 1241 IU/L. The patient was promptly initiated on maintenance fluids at a rate of 2 ml/kg/h. In the ED, the patient experienced a seizure and was administered Levetiracetam intravenously at a loading dose of 40 mg/kg. Subsequently, the patient was admitted to the pediatric ICU. On the second day of ICU monitoring, the patient's condition deteriorated, necessitating intubation due to status epilepticus. By the ninth day, signs of improvement were observed, prompting plans for extubation. Throughout the patient's ICU stay, antiepileptic and anti-edema treatments were maintained, alongside scheduled physiotherapy sessions. After 29 days of ICU, the patient was deemed stable for transfer to the pediatric ward. Subsequently, the patient underwent additional physiotherapy sessions and modifications to their antiepileptic regimen prior to discharge.

Discussion and Conclusion

Rhabdomyolysis manifests through diverse etiologies, predominantly arising from traumatic and non-traumatic causes. Non-traumatic factors encompass a broad spectrum, including genetic disorders, toxins, inflammatory processes, infections, and medications (1). Conversely, traumatic etiologies entail a common mechanism of physical stress precipitating the breakdown of muscle cells. The subsequent release of intracellular elements into circulation leads to elevated CK levels, commonly utilized in diagnosis. Moreover, these released elements contribute to the potential morbidity and mortality associated with rhabdomyolysis (2).

While some studies identify blunt injuries as the most prevalent cause of rhabdomyolysis across all age groups (3), our focus lies on three toddler cases diagnosed with trauma-induced rhabdomyolysis. The toddler population, being reliant on caregivers, faces an augmented risk of trauma exposure. Through these cases, we observe the potential lethal trajectory accompanying rhabdomyolysis.

Although pediatric traumas culminating in rhabdomyolysis-associated acute kidney failure have established CK levels exceeding 3000 IU/L as a determinant risk factor (4), our

case series unveils a contrasting scenario. Patients in the ED exhibited CK levels below the threshold of 1500 IU/L. Unfortunately, the insufficient duration of follow-up surveys for patients with fatal outcomes precluded a clear depiction of acute kidney failure. Despite these findings, extant literature underscores a significant association between concurrent rhabdomyolysis and the development of acute kidney failure in children following a traffic accident (5).

Significantly, there is a notable gap in comprehensive research concerning the correlation between patient mortality and CK levels. It is crucial to acknowledge the potential of CK measurements in routine trauma patient evaluations as predictive indicators for anticipating outcomes based on ED tests. The incorporation of routine CK measurements into trauma patient assessments could provide invaluable insights, with further investigations in this area poised to substantially enrich existing literature. Understanding the mortality implications in such cases is paramount, especially considering the heightened vulnerability of toddlers who depend on parents or caregivers.

As a result, further exploration in this field offers the potential to make substantial advancements in medical literature, thereby enriching our comprehension of these intricate associations. Additionally, continued investigation into this area could pave the way for the development of novel diagnostic and prognostic tools, ultimately improving patient outcomes. Ultimately, the pursuit of additional research endeavors holds the key to unlocking new insights and refining existing paradigms, thus bolstering our collective understanding of the interplay between CK levels and patient mortality in traumatic contexts.

Table 1 – Demographic characteristic, diagnosis, clinical and laboratory outcomes

Cases	Age (months) and sex	Etiology	Diagnosis	CK in the ED (IU/L)	Electrolyte Disorder	Transferred from the ED	Length of Hospital Stay (days)	Kidney Failure	Outcome
1	10 - girl	Crush injury	Subarachnoid Hemorrhage	1258	None	ICU	2	None	Deceased
2	23 - girl	Burn	3 rd Degree Burn	1521	None	None	1	None	Deceased
3	6 - boy	Motor vehicle collision	Subdural Hemorrhage	1241	None	ICU	33	None	Survived

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Key Words: Influenza A, Influenza B, Rapid antigen card Test, Emergency Department.

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Rhabdomyolysis and acute renal failure in a patient admitted to the emergency department with high voltage electric shock and hypothermia: a case report

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INTRODUCTION

The most common type of injury in the body as a result of electric shock is burns (1). In low-voltage electrical injuries, burns are generally more superficial and muscle destruction is rare. In high-voltage electrical injuries, deep burns and organ loss due to compartment syndrome and rhabdomyolysis, myoglobinuria, acute renal failure and multiple organ failure due to muscle destruction are common. The mortality rate of high-voltage-related injuries is quite high and surgical treatment is required in some cases in addition to medical treatment (2,3). Life-threatening cardiac arrhythmias, especially ventricular fibrillation, respiratory arrest and trauma may be observed in both types (3).

CASE REPORT

A 21-year-old male patient was found by villagers in the morning in the field about to freeze and was brought to us after 112 emergency medical teams were notified. According to the anamnesis, the patient had tried to enter the transformer building in the field to steal electrical equipment and was then electrocuted. When the patient arrived, there were traces of arc burns on the torso, which were thought to be due to electrical burns. There were also burn marks on the arms and legs due to electrical burns. Peripheral circulation was weakened and there were signs of cyanosis at the fingertips. The patient was conscious, oriented and cooperative. Vital signs included blood pressure: 130/80 mm/Hg, pulse rate: 80/minute, temperature: 35.6oC and fingertip oxygen saturation: 80. There were no pathologic findings on electrocardiography. Routine laboratory tests were ordered. The patient was started on saline intravenously which was heated at room temperature. Physical warming was performed with a heating blanket and fan. Tetanus and antibiotic prophylaxis was given. Thoracic and abdominal tomography was performed to evaluate for trauma and lung and liver parenchymal burns. No pathologic findings

were found in the imaging results. Bladder catheterization was performed to monitor urine output and black urine (myoglobinuria) was observed (Figure 1). Laboratory tests of the patient from the time of admission to the emergency room during hospitalization are given in detail in Table 1.

After the patient was admitted to the intensive care unit, he was placed on hemodialysis for 4 hours on the second day of hospitalization due to insufficient urine output despite fluid replacement and increased urea/creatinine values. Wound care and debridements were performed regularly by the plastic surgery clinic. Ceftriaxone (2x1 gr) and moxifloxacin (1x400 mg) were administered as antibiotics. After an increase in C-reactive protein (CRP) values, ceftriaxone treatment was discontinued and replaced with piperacillin-tazobactam (4x2.25 g). After seven days of treatment in the intensive care unit, the patient was transferred to the nephrology ward. The patient complained of limitation of movement in the left elbow and numbness in the hand and debridement was performed. The patient received hemodialysis 4 hours a day for 15 days. With the improvement of renal function tests and urine output during the process, hemodialysis was terminated on the 17th day of treatment. Surgical operation was planned by the plastic surgery clinic for wound care and debridement, but the patient refused treatment and left the hospital on the 19th day of hospitalization.

DISCUSSION

High-voltage electrical injuries are a clinical condition with multisystemic destructive consequences including myoglobinuria, renal failure and compartment syndrome, requiring multidisciplinary intensive care treatment with specialized resuscitation and early surgical debridement (4). Indicators of rhabdomyolysis include myoglobinuria and high creatine kinase levels. The risk of need for fasciotomy and amputation is very high in patients with gross myoglobinuria and one of the determining risk factors of myoglobinuria is compartment syndrome (5,6). The incidence of myoglobinuria in patients is quite high, 75-100%. In rhabdomyolysis-induced myoglobinuria, acute renal failure (ARF) may develop within hours and days. Correction of hypovolemia with aggressive fluid resuscitation in the early period in myoglobinuric patients reduces the incidence of ARF up to 40% (6). Similar to this case, in a case reported by Aydın et al. in 2019, a 52-year-old male patient was exposed to 36,000 volts of current with a transformer explosion and compartment syndrome and rhabdomyolysis occurred in the patient's arm. In this case, cardiac pathology, lung and liver tissue damage did

not develop and the electric current caused major tissue damage on the musculoskeletal tissue (7).

In high-voltage electrical injuries, complications are more frequent and severe with the degree of muscle destruction. These complications can be prevented with effective and rapid fluid resuscitation, early surgical debridement and multidisciplinary intensive care treatment. In this case, we aimed to emphasize the clinical findings of the patient who was thought to have been exposed to high-voltage electric current and developed hypothermia, the treatments performed during hospitalization and the importance of hemodialysis treatment in preventing mortality.

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Table 1. Laboratory data observed during the patient's stay in the emergency department and hospitalization

PARAMETER / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	REFERENCE INTERVAL / UNIT
Glucose	124	93	70	96	75	75	75	76	82	92	88	80	75	78	82	78	82	86	70-100 mg/dL
Urea	52	96	91	81	69	71	71	76	88	50	54	40	35	28	28	28	29	131	17-43 mg/dL
Creatinine	2,58	3,93	4,24	4,23	3,96	3,9	3,99	5,03	5,5	3,6	3,5	2,8	2,5	2,06	1,8	1,8	1,4	1,1	0,7-1,20 mg/dL
Uric acid	-	11,6	6,7	5	3,8	3,7	3,7	4,4	6,1	5,8	6,8	5,6	4,7	4,2	3,8	3,8	3	2,9	3,5-7,2 mg/dL
GFR	32	19	18	18	19	19	19	14	13	21	22	28	32	42	49	49	62	85	90-300 mL/dak/7.73m ²
Total protein	43	-	-	-	-	-	-	43	51	52	52	-	52	56	61	61	67	-	60-80 g/dL
Albumin	24	25	-	22	21	20	20	21	22	24	25	-	23	24	28	28	30	-	35-55 g/dL
Sodium	127	130	135	135	134	138	138	139	141	140	147	143	143	141	140	140	140	140	135-145 mmol/L
Potassium	4,8	5,5	4,4	4,1	3,8	3,9	3,8	13,8	4,1	3,9	4,2	3,9	3,7	3,7	4	4,4	4	3,5	3,5-5,71 mmol/L
Calcium	6	6,2	7,6	7,6	8	7,7	7,3	7,7	7,7	7,7	7,2	7,3	7	7,3	7,9	7,9	8,7	8,9	8,6-10,6 mg/dL
Chlorine	103	101	102	103	103	105	106	105	108	108	113	108	109	107	108	108	105	103	98-107 mmol/L
Magnesium	1,9	2	1,9	1,8	-	-	-	1,6	1,6	1,4	1,6	-	1,3	1,3	1,3	1,2	1,4	1,6	1,6-2,6 mg/dL
AST	2541	1738	1731	1267	790	751	414	135	79	37	25	-	26	26	33	33	43	26	0-50 U/L
ALT	229	232	161	124	102	102	82	55	41	29	19	-	17	18	20	20	28	-	0-50 U/L
LDH	-	7476	2641	1740	-	-	1079	550	496	386	320	-	248	240	89	89	229	-	0-250 U/L
CK	9882	-	-	-	-	-	-	1082	483	147	154	-	105	90	89	89	83	-	0-170 U/L
Amylase	88	56	79	125	-	-	186	208	239	210	117	-	142	153	139	139	140	117	28-100 U/L
Lipase	64	29	54	150	-	-	255	260	270	210	92	-	128	159	139	139	133	111	0-67 U/L
CRP	47,6	260	189,4	164,2	196,4	203	203	136,5	115	76,9	86,3	-	125	111	105	105	57,4	49,1	0-5 mg/dL
White Blood Cell	38,09	14,7	8,62	8,51	8,26	7,31	7,15	8,62	8,94	6,22	6,02	-	6,43	6,66	6,25	6,25	7,05	4,9	4-10 10 ³ /mm ³
Neutrophil	30,82	12,62	7,27	7,17	6,89	5,54	5,61	6,99	6,74	4,48	4,40	-	4,28	4,47	4,01	4,04	4,8	2,99	2-75 10 ³ /mm ³
Lymphocyte	4,11	1,16	0,89	0,92	0,81	1,01	0,82	1,01	1,39	1,18	1,11	-	1,48	1,52	1,62	1,62	1,61	1,32	0,80-4 10 ³ /mm ³
Hemoglobin	20,5	13,9	11,3	10,5	10,5	10	10,6	10,6	9,8	9,6	9	-	8,3	8,4	8,7	8,7	9,7	9,3	11-16,5 10 ³ /mm ³
Platelets	350	153	107	98	93	142	108	197	253	286	377	-	404	432	448	448	488	412	100-450 10 ³ /mm ³
pH	7,14	7,41	7,42	7,47	7,45	7,41	7,49	-	-	-	-	-	-	-	-	-	-	-	-
HCO ₃	11,7	19,6	22,5	23	24,2	22,1	24,7	-	-	-	-	-	-	-	-	-	-	-	17-20 mmol/L
Lactate	5,62	1,84	1,39	1,9	1,5	1,57	1,91	-	-	-	-	-	-	-	-	-	-	-	0,5-1,5 mmol/L
INR	1,9	2	1,7	1,1	1,8	1,8	1,6	-	-	1,26	-	-	-	-	-	-	-	-	0,8-1,22



Figure 1. Burns and myoglobinuric urine observed on initial examination in the emergency department

9712

Treatment Fulminant Myocarditis In A 19 Year Old Female Patient

SUMMARY

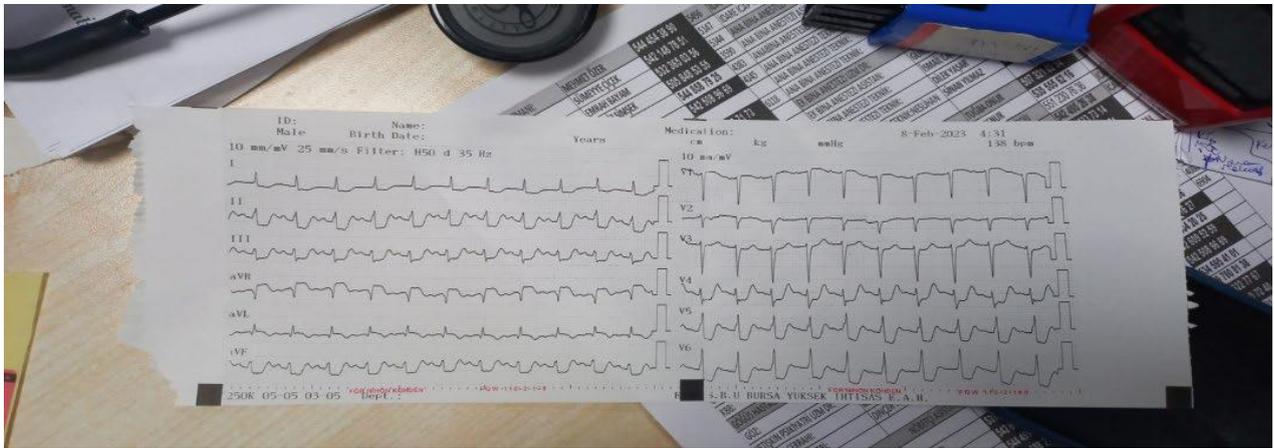
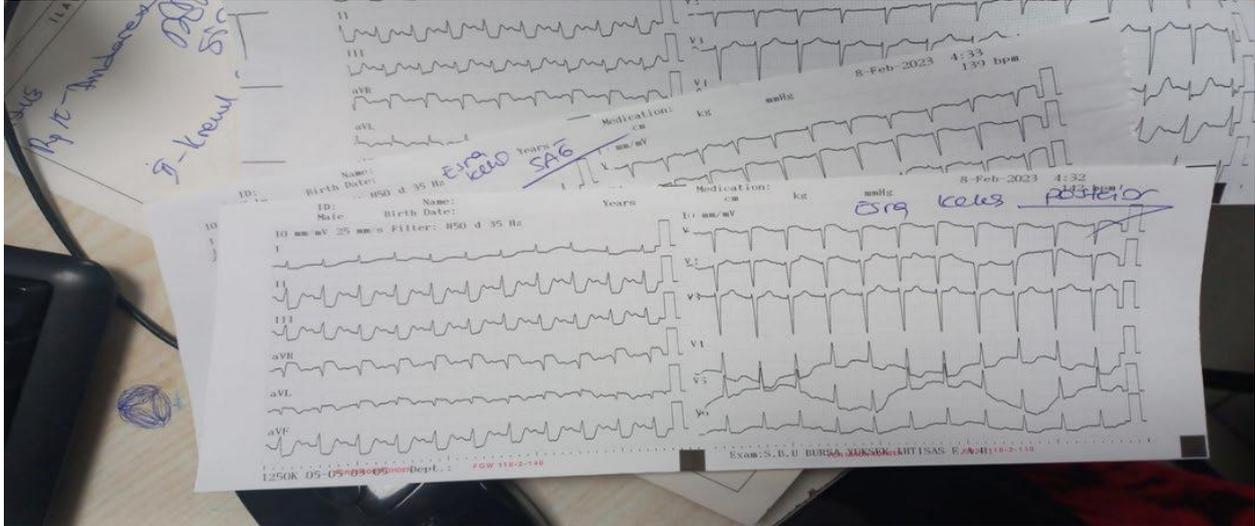
Dilated cardiomyopathy is a myocardial disease characterized by ventricular dilatation and global myocardial dysfunction (ejection fraction < 40%). Patients usually experience symptoms of biventricular insufficiency, e.g. It presents with fatigue, dyspnea, wrist edema. Dilated cardiomyopathy is a myocardial disease characterized by ventricular dilatation and global myocardial dysfunction (ejection fraction < 40%). Patients usually experience symptoms of biventricular insufficiency, e.g. It presents with fatigue, dyspnea, wrist edema. Viral myocarditis (coxsackie B / adenovirus), alcoholism, toxins, autoimmune disease, pregnancy (peripartum cardiomyopathy) are the most common causes.

INTRODUCTION

Inflammation of the heart muscle is called myocarditis. The most common cause is infections. Toxins, drugs and physical agents can cause it. It can usually present with signs of heart failure such as chest pain, dyspnea, orthopnea, edema, or prodrome symptoms such as fever and joint pain if the causative agent is viral. It is usually asymptomatic, and the most important thing for diagnosis is suspicion.

CASE

A 19-year-old female patient was brought to the emergency room at 04.25 in a sitting position on a stretcher. It was learned that it was her 3rd emergency visit in the last 24 hours and that after taking the medicine containing the active ingredient amoxicillin-clavulanic acid, she started experiencing stinging pain in her chest while breathing. She had been having a cough for 1 week and chest pain for 1 month. Fever: 36.1 degrees Celsius Pulse: 135 / min TA: 97/56 mm / Hg Spo2: 97 glucose:: 181 / mg. Skin pale, moist, cold, sweaty, gx 15, tachypneic and orthopneic.



ECG: ST-T changes Global hypokinesia was observed in the echocardiogram performed in the emergency room. She was admitted to the cardiology intensive care unit due to dilated cardiomyopathy. The case, which progressed to fulminant myocarditis during the follow-up period, was connected to extracorporeal membrane oxygenation, was not deemed suitable for the heart transplant procedure due to the drop heart, and died.

CONCLUSION

Myocarditis should be suspected in patients with chest pain along with existing infection and in patients with cardiac signs and symptoms, especially if these symptoms are new and cannot be explained by anything.

Myocarditis is a disease that can progress to heart failure and have high mortality and morbidity if it is not diagnosed and treated. Emergency physicians can diagnose suspected myocarditis as a result of professional experience and careful physical examination, and early diagnosis and treatment can prevent myocarditis, which can progress to death.

hypocalcemia are due to diarrhea and gastrointestinal losses. Metabolic acidosis is an important laboratory finding associated with mortality (1). We presented a patient who presented to the emergency department at the 6th hour after ingestion of a toxic dose of oral colchicine and had deterioration in liver function tests and hemogram during follow-up but recovered with treatment.

Keywords: Colchicine, familial mediterranean fever, toxicity

CASE

A 22-year-old woman was brought to the emergency department by ambulance 6 hours after taking 50 0.5 mg colchicine tablets. She had vomited 8 times and had active nausea and vomiting symptoms. On arrival, the patient's vitals were as follows: temperature: 36.6 °C, arterial blood pressure: 119/89 mmHg, pulse rate: 78 beats/min, transcutaneous oxygen saturation: 99%. Physical examination revealed no pathologic findings. It was learned that the patient weighed 50 kg. In the anamnesis of the patient, it was learned that he had familial Mediterranean fever among his known diseases and therefore he was taking colchicine 0.5 mg orally 2x1. It was learned that the patient drank many drugs with suicidal intent. Poison hotline was consulted and intensive care follow-up for at least 32 hours; electrolyte, liver function tests, PT (INR), ECG follow-up were recommended. Hemogram, coagulation tests, troponin, electrolytes, liver and kidney function tests were within normal limits. There were no pathologic findings on ECG. The patient was admitted to the anesthesia intensive care unit for follow-up.

In the blood tests taken at the 16th hour of admission, PT: 1.85 s, Aspartate Aminotransferase (AST): 105 IU/L (5-40), he was consulted from the intensive care unit to the nephrology department for "possible dialysis need". The nephrology department stated that there was no indication for dialysis because colchicine is not a dialyzable substance and does not bind to protein. Plasmapheresis was performed at the 30th hour of admission. After plasmapheresis, red, raised, itchy lesions starting from the lower extremities and spreading throughout the body started and the dermatology department was consulted. The lesions regressed after administration of pheniramine 45.5 mg IV, dexamethasone 8 mg IV, methylprednisolone 80 mg IV. The patient underwent plasmapheresis again the next day. The

patient was consulted to the psychiatry department during intensive care unit follow-up and it was stated that he did not intend to use active suicidal drugs. On the 3rd day of hospitalization, the patient's hemogram showed leukocytes: $2.27 \times 10^3/\text{mm}^3$ (4-10.6), erythrocytes $3.1 \times 10^6/\text{mm}^3$ hemoglobin (Hb): 7.08 g/dL (13-17), Platelet (PLT): $69 \times 10^3/\text{mm}^3$ (150-400) and was consulted to the hematology department with a prediagnosis of pancytopenia. Drug-induced myelosuppression and aplastic anemia were considered. Granulocyte colony stimulating factor (G-CSF) 30×10^6 U/day treatment was started. Gamma Glutamyl Transferase (GGT) in biochemical blood tests on the 5th day of admission: 141 IU/L (0-40), AST: 262 IU/L (5-40), Alanine aminotransferase (ALT): 214 IU/L (5-41) values were observed. On the 7th day of hospitalization, hemogram blood tests showed leukocyte $24 \times 10^3/\text{mm}^3$, erythrocyte $3.71 \times 10^6/\text{mm}^3$, Hb 9.03 g/dL, PLT: $51 \times 10^3/\text{mm}^3$, AST: 64 IU/L, ALT: 129 IU/L, GGT: 132 IU/L, G-CSF treatment was stopped and the patient was transferred to the internal medicine ward. During the ward follow-up, CRP: 9.3 mg/dL was observed and infectious diseases were consulted. Blood and catheter cultures were taken. Infection originating from the jugular venous catheter inserted for plasmapheresis was considered. The catheter culture grew Gram positive chain cocci and Teicoplanin 400 mg 2x1 IV treatment was started. The patient whose blood culture grew Methicillin-resistant Staphylococcus aureus (MRSA) was transferred to the infectious diseases service. After 4 days of infectious diseases service follow-up, hemogram, coagulation tests, troponin, electrolyte, liver and kidney function tests were within normal limits and the patient was discharged on the 21st day of admission. On the hemogram taken from the patient on the 7th day of discharge; Leukocyte: $6.12 \times 10^3/\text{mm}^3$, Hb: 11.01 g/dL, PLT: $323 \times 10^3/\text{mm}^3$ and CRP < 0.05 mg/dL.

CONCLUSION

It should be known that a patient with suspected colchicine intoxication may deteriorate during follow-up, even if his/her vitals and blood parameters are normal at initial presentation. In our patient, liver function tests were impaired and pancytopenia developed due to myelosuppression. The addition of hospital-acquired infective processes to his existing condition during his long hospitalization prolonged the hospitalization process even more. The clinical course was not mortal despite receiving a dose very close to the lethal dose due to the patient's

young age and early treatment. However, it should be kept in mind that colchicine intoxication has high mortality and morbidity.

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Corpus Calosum Infarction: 3 cases and literature review

Abstract

Ischemic infarction of corpus callosum is rare. Rich blood supply, collateralization of corpus callosum and accompanying other infarctions are the cause of its rarity. Clinical manifestations of corpus callosum infarcts are lack of specificity and complex. Due to its rarity and nonspecific symptoms, corpus callosum infarctions have diagnostic uncertainty. We present three cases in which all of them have different clinical symptoms and examinations. Based on the light of this case, the clinical manifestations, diagnosis, differential diagnosis, treatment, and prognosis of this disease are reviewed. Clinical and radiographic characteristics can help distinguish vascular from nonvascular lesions in the corpus callosum.

Introduction

The corpus callosum, located between the two cerebral hemispheres, is the largest commissural fiber that connects cortical and subcortical neurons. Its primary function is to integrate and coordinate sensory, motor, and cognitive information from both cerebral hemispheres. According to its connection with the cortical regions, the corpus callosum is divided into four parts: the rostrum, genu, body, and splenium (1-2). The corpus callosum is supplied by four arteries, which are branches of both the anterior and posterior circulations: the anterior communicating artery, pericallosal artery (a branch of the anterior cerebral artery), posterior choroidal artery, and posterior pericallosal artery (a branch of the posterior cerebral artery). Because of the small diameter of the perforating artery, blood from the branch arteries flows directly from the superior artery, leading to a tendency for emboli to progress toward the middle cerebral artery (3). Moreover, due to this rich vascular supply, even if arterial stenosis or occlusion occurs on one side, it is tolerated by the rich vascular anastomosis. For all these

reasons, corpus callosum infarction clinically appears to be quite rare (4). The etiology, clinical symptoms, diagnosis, differential diagnosis, treatment, and prognosis of three cases of acute corpus callosum infarction who presented to our emergency department with nonspecific complaints and were diagnosed by imaging were reviewed.

Case 1

A 33-year-old female patient presented to the emergency department with complaints of vaginal bleeding and suspected pregnancy. It was learned from her history that she had been experiencing abnormal vaginal bleeding for several days. The patient had no history of chronic illness in her medical history but had a history of chronic alcohol use. Upon physical examination, the patient's vital signs were stable, her general condition was good, but her self-care was decreased, and she appeared apathetic. There were no signs of trauma and no history of repeated neurocognitive worsening. Laboratory tests revealed a platelet count of $122 \times 10^3/\mu\text{L}$, serum Na level of 126 mmol/L, ALT of 118 U/L, AST of 315 U/L, ethanol level was negative, B-hCG was negative, and coagulation parameters were normal. The patient continued to experience hallucinations, apathy, and confusion. DWI MRI scans revealed hyperintense lesions in the splenium of the corpus callosum (Figure 1). The patient was admitted to the neurology service for clinical monitoring. During neurology admission, cholesterol levels were normal, but triglycerides were elevated at 276 mg/dL, and Vitamin B12, thyroid function tests, and HbA1c were normal. Microscopic examination of the cerebrospinal fluid excluded any cells. Glucose and protein levels in the cerebrospinal fluid were normal. During the etiological investigation of cerebrovascular events in the patient with a negative thrombophilia panel, cervical Doppler ultrasound, rhythm Holter monitoring, and echocardiography were all normal. Upon improvement in the patient's general condition during follow-up, she was discharged.

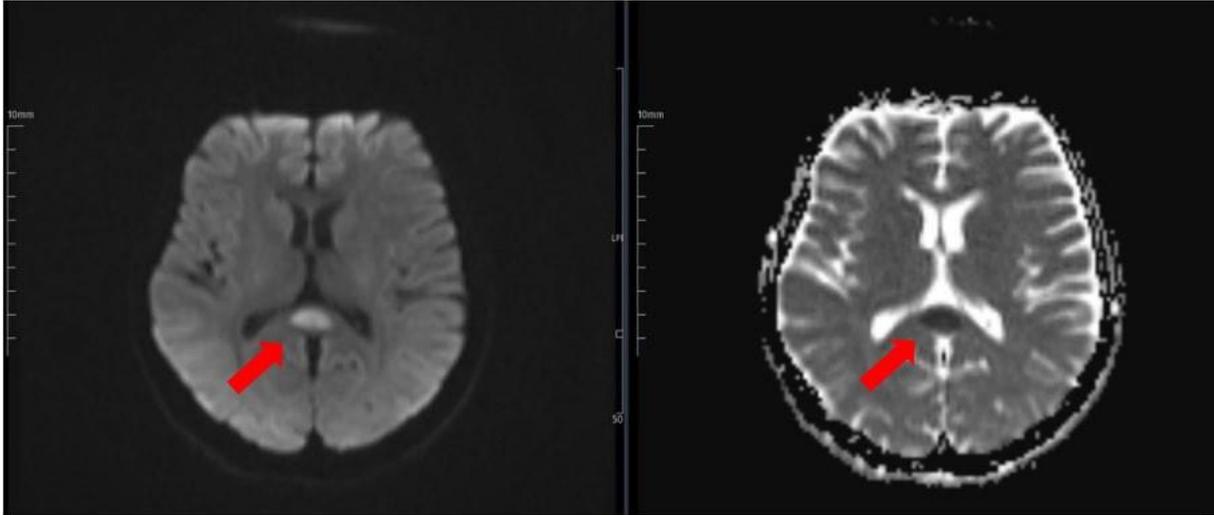


Figure 1: DWI MRI finding for Case 1. Hyperintensity in DAG images, hypointensity in ADC

Abbreviations: MRI: Manyetik Resonans Imaging, DWI: Diffusion Weighted Imaging, ADC: Apparent Diffusion Coefficient

Case 2

A 29-year-old female patient presented to the emergency department with complaints of dizziness and nausea/vomiting for the past 3 days. She had no history of chronic illness and did not have any vascular risk factors. Upon presentation, the patient had no vital abnormalities, and her neurological examination was unremarkable. Laboratory findings and coagulation parameters were normal. The patient had persistent and recurrent symptoms, and central imaging revealed diffusion restriction consistent with acute ischemia in the splenium of the corpus callosum on DWI MRI (Figure 2), prompting a consultation with a neurology specialist. Following neurology consultation, the patient's symptoms improved during follow-up in the emergency department, and her neurological examination remained normal. Consequently, she was discharged with a recommendation for elective etiological evaluation.

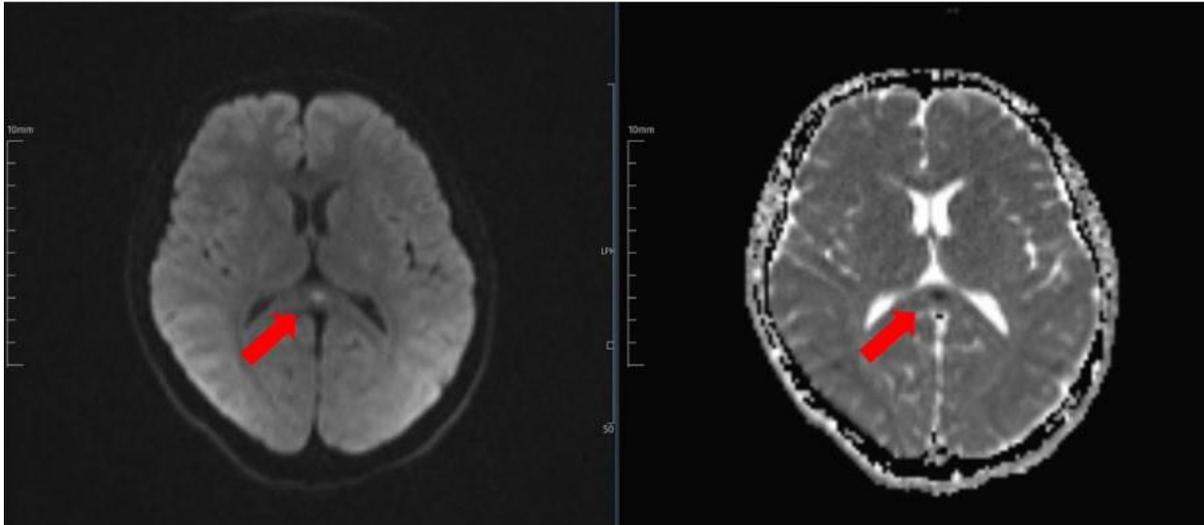


Figure 2: DWI MRI finding for Case 2. Hyperintensity in DAG images, hypointensity in ADC

Abbreviations: MRI: Manyetik Resonans Imaging, DWI: Diffusion Weighted Imaging, ADC: Apparent Diffusion Coefficient

Case 3

A 21-year-old male patient presented to the emergency department with abdominal pain, nausea, and vomiting. After DWI MRI revealed diffusion restriction in the posterior corpus callosum, the patient was referred to our emergency department. The patient's vital signs upon arrival were normal, and his neurological examination was unremarkable. Laboratory findings showed normal complete blood count and coagulation parameters. Serum Na level of 128 mmol/L and hs-troponin T level of 128 ng/L. The patient was admitted to the neurology department. During hospitalization, further investigations for etiology revealed a TSH level of 5 mU/L, normal free T3-T4 levels, vitamin B12 level of 151 ng/L, and normal cholesterol levels, but elevated triglycerides at 173 mg/dL, fibrinogen level of 3.93 g/L, and normal HbA1c. Lupus antibodies were positive, and mild left ventricular motion abnormality was detected on cardiac echocardiography. A history of myocarditis was considered. Cervical Doppler ultrasound and EEG were normal. DWI MRI (Figure 3) revealed hypointense diffusion restriction in the splenium. The patient's hyponatremia improved during follow-up, and appropriate medication was provided for the gastroenteritis that developed. With his condition improving during the follow-up period, the patient was discharged.

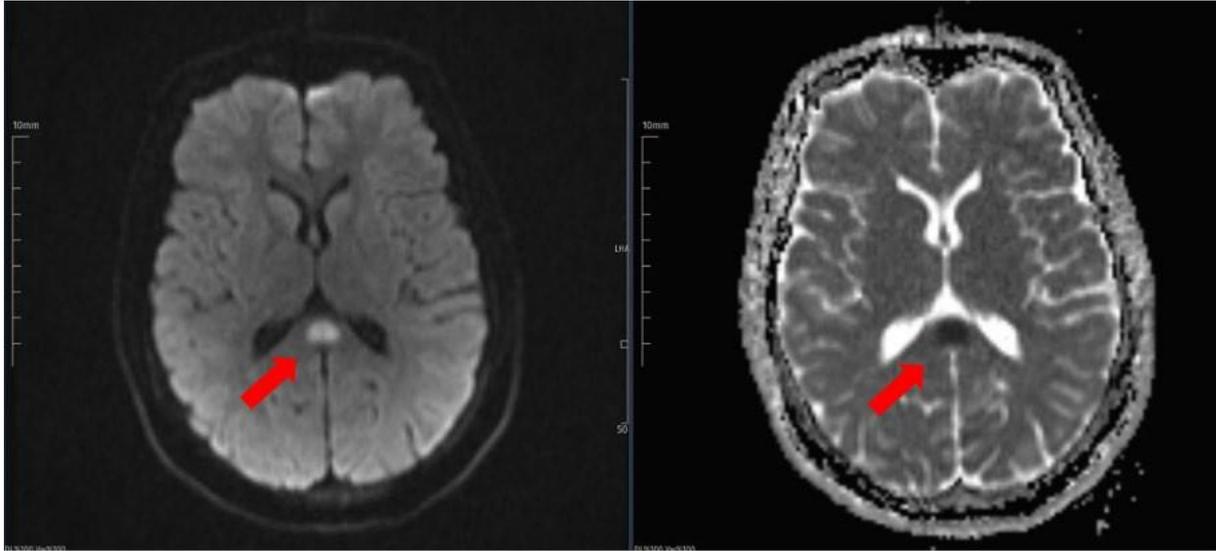


Figure 3: DWI MRI finding for Case 3. Hyperintensity in DAG images, hypointensity in ADC

Abbreviations: MRI: Manyetik Resonans Imaging, DWI: Diffusion Weighted Imaging, ADC: Apparent Diffusion Coefficient

Discussion

The corpus callosum is a massive commissural system that connects the cerebral hemispheres, including the cortical and subcortical areas (5). It is currently believed to play a significant role in coordinating the two hemispheres (left and right brain hemispheres) and cognitive functions, including memory and computational capacity (6). Because of the rarity of isolated corpus callosum infarctions, they often do not present with characteristic clinical features. Clinical manifestations are nonspecific and can include symptoms such as headache, extremity weakness, movement disorders, and memory impairments (7). Lesions of the corpus callosum may pose a diagnostic dilemma for radiologists and clinicians. They are associated with neuropsychiatric symptoms, particularly interhemispheric disconnection syndromes. Patients may exhibit gait disturbances, apraxia, agraphia, tactile anomia, and alien hand syndrome, among others (8-9). In our cases, the first case presented with confusion, hallucinations, and apathetic behavior, the second case with dizziness, nausea, and vomiting, and the third case with systemic nonspecific symptoms, such as vomiting and nausea related to gastroenteritis.

High-risk factors for corpus callosum infarction include carotid wall thickening or plaque formation, hypertension, hyperlipidemia, diabetes, cerebral artery stenosis, smoking, and coronary artery disease. Chrysikopoulos et al. noted that most stroke cases are of thromboembolic origin, and emboli tend to be observed in the distribution area of the middle cerebral artery because of hemodynamic factors (4). Other vascular causes of corpus callosum infarction include vasospasm, venous occlusions, hypercoagulability, vasculitis, and hypoxia (10). Nonvascular causes of corpus callosum lesions include neoplasms, particularly lymphoma, multiple sclerosis and other demyelinating conditions, trauma, metabolic diseases (such as Marchiafava-Bignami syndrome following chronic alcohol use), carbon monoxide poisoning, viral encephalitis, and seizures (12-13). In a study of 69 cases with diffusion restriction in the splenium, the most common causes were malnutrition/alcoholism, seizures, and trauma (14). In our cases, cardioembolic events and carotid artery occlusions were ruled out in the first case. Hypertriglyceridemia was determined to be a vascular risk factor. Among the nonvascular risk factors, demyelinating diseases, neoplasms, and trauma were excluded. Malnutrition is considered the etiological cause in the patient with a history of long-term alcohol use. In the second case, incomplete hospitalization and failure to attend follow-up appointments hindered completion of the etiological investigation. A clinical discrepancy with the MRI findings was noted during the neurological examination in the emergency department. Radiological images were evaluated for variation. In the third case, hypertriglyceridemia was a vascular risk factor. Left ventricular wall motion abnormality detected on cardiac echocardiography and elevated troponin levels were evaluated as secondary to myocarditis. These factors could be involved in the etiology. Dehydration and hypoperfusion due to nausea, vomiting, and gastroenteritis symptoms in our patient could have contributed to this condition. Furthermore, the positivity of lupus antibodies and elevated fibrinogen levels in the third case may have caused hypercoagulability and played a role in the etiology.

Chrysikopoulos et al. found that the splenium region is more frequently affected than the genu and body regions. They attributed this to the higher incidence of posterior cerebral artery infarctions compared with anterior cerebral artery infarctions (10). In a case series of five cases, all cases showed involvement of both the body and genu regions, with no involvement observed in the splenium region. This was attributed to patient population characteristics such as advanced age and the presence of vascular risk factors like diabetes and hypertension (11). In a case series of 25 cases, it was shown that the splenium region is more frequently affected

than the genu and body regions, consistent with the findings of Chrysikopoulos et al. (7). In our cases, involvement was observed in the splenium region in all three patients. This could be attributed to the young age of our patients and a higher prevalence of nonvascular risk factors.

In a study investigating the etiologies of diffusion restrictions in corpus callosum MRI imaging, it was shown that more than half of the cases were attributed to nonvascular causes. Nonvascular etiologies were associated with younger age. Vascular risk factors were less prevalent, and radiographic abnormalities, such as cortical lesions, intraparenchymal expansion, or mass effect, were more commonly associated with nonvascular etiologies. In the same study, less than half of the cases with diffusion restriction in the corpus callosum were considered to be of vascular origin. Atypical causes such as vasculopathy, vasculitis, and hypercoagulability constituted 37% of the cases. Cardioembolism, among vascular causes, followed atypical causes with 28%. Clinical and radiological findings can help distinguish whether corpus callosum lesions are of vascular or nonvascular origin. Nonvascular lesions are typically observed in younger patients without vascular risk factors and may often be accompanied by mass effect and edema. Atypical mechanisms are more common in vascular cases. Detailed diagnostic evaluation is required, especially to identify the rarer causes of infarction in the splenium, for a comprehensive understanding of these lesions (15).

Conclusion

Because of the lack of specific clinical and examination findings, corpus callosum infarctions may be underdiagnosed. They should be considered as a diagnosis in patients presenting with abnormal neurological examination findings, cognitive impairments, and an abnormal mental status. Discrimination between vascular and nonvascular etiological factors can be made on the basis of patients' clinical conditions, laboratory findings, and neuroimaging results. Treatment and follow-up plans should be tailored according to the patients' clinical conditions and the results of etiological investigations.

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KIDNEY CYST RUPTURE AFTER TRAUMA: CASE REPORT

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Introduction

Rupture of kidney cysts due to spontaneous or traumatic causes is not seen very frequently. More often, patients presenting due to hematuria are diagnosed after radiological examinations (1,2).

Our aim in this case report was to present that renal cyst rupture may occur due to trauma, which is rarely seen in the literature.

CASE REPORT

A 47-year-old male patient is brought to the emergency room due to an in-car traffic accident. The patient does not have any disease other than known kidney cyst and kidney stone. When the patient's traffic accident energy is questioned, it is understood that the patient did not have a seat belt and was exposed to general body trauma after the shaking. The patient's first arrival vital signs are; TA: 130/80, Pulse 75, Oxygen Saturation 98, Fever 36.5oC. Neurological examination was normal, GCS was 15. No pathology is detected in the patient's other system examinations other than left side pain and tenderness. In the examinations, the first tests were found to be normal, except for macroscopic hematuria. In the first laboratory tests, Creatine: 1.53 UREA: 33.7 HGB 16.7 HCT: 46.8. In the patient's previous tests, Creatine was 1.47. Contrast-enhanced CT scan is performed after obtaining the consent of the patient whose hemodynamics is stable. 2. The patient, whose control hemogram shows a tendency to decrease, is admitted to the intensive care unit by urology with the diagnosis of traumatic renal cyst rupture, as a result of USG and contrast-enhanced CT(Figure 1).

Discussion

Rupture of a renal cyst may be spontaneous, iatrogenic, or the result of minor trauma, especially those with predisposing factors such as cysts, tumors, or hydronephrosis. In fact, kidney problems are responsible for approximately 25% of abdominal trauma. Hematuria and/or burning are most common, but some patients may develop hematuria asymptotically from the onset of trauma to the kidney. Treatment is usually conservative, but sometimes nephrectomy may be necessary(4). Renal cyst rupture is a rare event that is usually self-limiting and can sometimes lead to diagnostic dilemmas(3). Although the treatment of the disease is approached conservatively, depending on its location, surgery is performed to follow bleeding that cannot be progressed.

In conclusion; It should be kept in mind that apart from the kidney's own sport, which can be transported to the emergency room due to trauma, rupture may occur due to previous cysts in the kidney.



Figure 1. Computerized tomography image of the patient

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Rupture of kidney cysts due to spontaneous or traumatic causes is not seen very frequently. More often, patients presenting due to hematuria are diagnosed after radiological examinations (1,2).

Our aim in this case report was to present that renal cyst rupture may occur due to trauma, which is rarely seen in the literature.

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Karaciğer Dansite Artışının Nadir Nedeni: AmiodaroneUtku Sarp Cerit¹, Enes Hamdioğlu¹, Gürkan Altuntaş¹, Özlem Bilir¹1 Recep Tayyip Erdoğan Üniversitesi Tıp Fakültesi Eğitim ve Araştırma Hastanesi Acil AD.,
Rize, Türkiye**Özet****Giriş**

Amiodaron, sınıf III antiaritmik sınıfında yer alan bir ilaçtır. Genellikle atriyal fibrilasyon ve supraventriküler taşikardiyi tedavi etmek için kullanılmaktadır. Ama amiodaronu kullanırken pulmoner fibrozis, periferik nöropati, tremor, korneal mikrodpozitler ve toksik hepatit gibi yan etkilerinin oluşabileceğini unutmamak gerekir. Amiodaron toksisitesi varlığında anormal karaciğer fonksiyon testi (KCFT) sonuçları gözlenebilmektedir, ancak tedavi aşamasında bu anormal sonuçlar tespit edilse bile hastalarda bu sürecin hiçbir semptom vermediği vakalar da sıklıkla karşımıza çıkmaktadır. Kuzey Amerika Pacing ve Elektrofizyoloji Derneği kronik olarak amiodaron kullanan hastalarda, asemptomatik seyreden bu toksisitenin tespiti için 6 ayda bir KCFT takibi yapılmasını önermektedir

Olgu

90 yaşında bilinen hipertansiyon, diyabetes mellitus, atrial fibrilasyon tanıları mevcut kadın hasta acil servise bulantı kusma karın ağrısı, oral alımda azalma şikayetleri ile başvurdu. Fizik muayenede Batın sağ üst kadranda palpasyonla olan hassasiyet mevcut. Yapılan incelemelerde bu opasite artışının karaciğerde madde birikimine (demir, amiodarone) bağlı olduğu düşünüldü. Hasta ileri tetkik ve tedavi amacıyla dahiliyeye interne edildi.

Tartışma

Amiodaron tüm kronik ilaç kullanımına bağlı karaciğer hasarının%1-3'ünü oluşturmaktadır. Özellikle yaşlı ve dislipidemisi olan hastalarda çoğunlukla hepatoselüler hasar oluşturduğu gözlemlenmiştir. Yüksek dozda intravenöz kullanımda ya da düşük dozlarda kronik kullanımın ardından karaciğer fonksiyon testlerinde yükselme meydana gelebilir. Çoğunlukla geçicidir ve amiodarone içinde de yüksek miktarda bulunan iyot birikimine bağlı olduğu düşünülmektedir.

Anahtar Kelimeler: amiodarone, karaciğer fonksiyon testi, radyoloji

Sonuç

Kullandığımız tüm ilaçların temel olarak faydalarını göz önünde bulundurarak kullansakta her preparatın yan etkileri ve toksisitelerinin de göz önünde bulundurarak takip ve tedaviyi sürdürmeliyiz. Biz olgumuzda amiodaron kullanımına bağlı olarak görülebilen karaciğer toksisitesi ve batın görüntülemeye karşımıza çıkan karaciğerde opasitesi artışını inceledik.

Rare Cause Of Increased Liver Density: Amiodarone

Utku Sarp Cerit¹, Enes Hamdioğlu¹, Gürkan Altuntaş¹, Özlem Bilir¹

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Abstract

Introduction

Amiodarone is a drug in the class III antiarrhythmic class. It is often used to treat atrial fibrillation and supraventricular tachycardia. But it should not be forgotten that side effects such as pulmonary fibrosis, peripheral neuropathy, tremor, corneal microdeposits and toxic hepatitis may occur when using amiodarone. Abnormal liver function test (LFT) results can be observed in the presence of amiodarone toxicity, but even if these abnormal results are detected during the treatment phase, there are often cases in which this process does not cause any symptoms in patients. The North American Pacing and Electrophysiology Association recommends LFT monitoring every 6 months in patients using amiodarone chronically to detect this asymptomatic toxicity.

Case

A 90-year-old female patient with known diagnoses of hypertension, diabetes mellitus, and atrial fibrillation applied to the emergency department with complaints of nausea, vomiting, abdominal pain, and decreased oral intake. On physical examination, there is tenderness to

palpation in the right upper quadrant of the abdomen. In the examinations, it was thought that this increase in opacity was due to the accumulation of substances (iron, amiodarone) in the liver. The patient was admitted to the internal medicine department for further examination and treatment.

Discussion

Amiodarone accounts for 1-3% of all chronic drug use-related liver damage. It has been observed that it mostly causes hepatocellular damage, especially in elderly patients and patients with dyslipidemia. Increased liver function tests may occur following high-dose intravenous use or chronic use of low doses. It is mostly temporary and is thought to be due to the accumulation of iodine, which is also found in high amounts in amiodarone.

Conclusion

Although we consider the basic benefits of all the drugs we use, we must continue follow-up and treatment by taking into account the side effects and toxicities of each preparation. In our case, we examined the liver toxicity that may occur due to amiodarone use and the increased liver opacity seen on abdominal imaging.

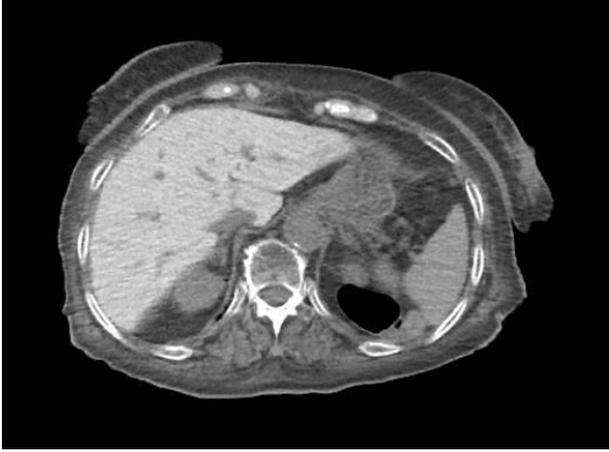
Keywords: amiodarone, liver function test, radiology

Giriş

Amiodaron, sınıf III antiaritmik sınıfında yer alan bir ilaçtır. Genellikle atriyal fibrilasyon ve supraventriküler taşikardiye tedavi etmek için kullanılmaktadır. Ama amiodaronu kullanırken pulmoner fibrozis, periferik nöropati, tremor, korneal mikrodpozitler ve toksik hepatit gibi yan etkilerinin oluşabileceğini unutmamak gerekir. Amiodaron toksisitesi varlığında anormal karaciğer fonksiyon testi (KCFT) sonuçları gözlenebilmektedir, ancak tedavi aşamasında bu anormal sonuçlar tespit edilse bile hastalarda bu sürecin hiçbir semptom vermediği vakalar da sıklıkla karşımıza çıkmaktadır. Kuzey Amerika Pacing ve Elektrofizyoloji Derneği kronik olarak amiodaron kullanan hastalarda, asemptomatik seyreden bu toksisitenin tespiti için 6 ayda bir KCFT takibi yapılmasını önermektedir (1).

Amiodaron'un karaciğer fonksiyon testlerinde yükselmeye neden olduğu bilinmektedir. Amiodarone kullanımına bağlı olarak KCFT yüksekliği gözlenen hastalarda yapılan batın

görüntülemelerde karaciğerin daha yüksek dansiteli olarak görüldüğü tespit edilmiştir (Şekil-1). Amiodarone'a bağlı olarak KCFT yüksekliği olan hastalarda batın görüntülemelerdeki oluşan değişikliğin patofizyolojisi net olarak aydınlatılamamıştır. Amiodarone'un ağırlık olarak ana bileşenini %37 oranında organik iyot oluşturmaktadır. İyot moleküler yapısında olduğundan, amiodaron veya metabolitlerinin varlığının, kontrast maddelerinin etkisine benzer şekilde etki gösterip bu görüntülerden sorumlu olduğu düşünülmektedir (2).



Şekil-1: Amiodarone kullanımına bağlı olarak KCFT yüksekliği tespit edilen hastanın Batın Bilgisayarlı Tomografisinde yüksek dansiteli görünümdeki karaciğer

Olgu

90 yaşında bilinen hipertansiyon, diyabetes mellitus, atrial fibrilasyon tanıları mevcut kadın hasta acil servise bulantı kusma karın ağrısı, oral alımda azalma şikayetleri ile başvurdu. Fizik muayenede Batın sağ üst kadranda palpasyonla olan hassasiyet mevcut, üriner yakınma yok, genel durum açık, ateş:36,8 derece, tansiyon:110/70 mm/Hg, nabız:76 atım/dakika. Laboratuvar bulgularında WBC:13,42, ALT:530, AST:840 Kreatin: 2,56 CRP:180. Yapılan kontrastsız batın görüntülemesinde karaciğerde opasite artışı tespit edildi. Yapılan incelemelerde bu opasite artışının karaciğerde madde birikimine (demir, amiodarone) bağlı olduğu düşünüldü. Hasta ileri tetkik ve tedavi amacıyla dahiliyeye interne edildi.

Tartışma

Amiodaron tüm kronik ilaç kullanımına bağlı karaciğer hasarının%1-3'ünü oluşturmaktadır. Özellikle yaşlı ve dislipidemisi olan hastalarda çoğunlukla hepatoselüler hasar oluşturduğu gözlemlenmiştir. Yüksek dozda intravenöz kullanımda ya da düşük dozlarda kronik kullanımın ardından karaciğer fonksiyon testlerinde yükselme meydana gelebilir. Çoğunlukla geçicidir ve

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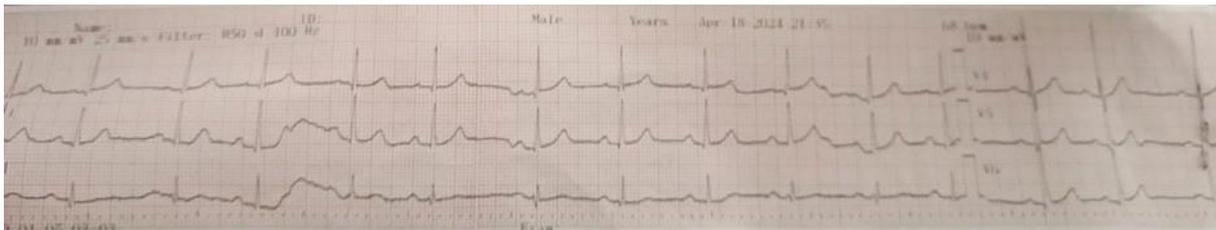
MYOCARDIAL INFARCTUS AFTER BATH: CASE REPORT**Dilek Atik¹, Yunus Emre Gülel¹, Cesareddin Dikmetaş¹, Onur Salih Çelikten², Ashhan Onuralp¹****¹Karamanoglu Mehmetbey University, Department Of Emergency Medicine****²Karaman Training and Research Hospital, Department Of Emergency Medicine**

Cardiovascular disease (CVD) is the leading cause of premature death worldwide and is increasing in association with individual lifestyle behaviors such as smoking, physical exercise, drinking, and dieting(1,2). Bathing is another lifestyle behavior, and the way people bathe varies greatly between countries and cultures. Especially in some societies, it takes the form of taking a shower, in some societies it takes the form of a bath, and in some societies it takes the form of a bath after the sauna. In Turkey, there is a cleaning practice especially in the form of Turkish Bath, which is one of the traditional methods.

Our aim in this case report was to present that, unlike the literature, Myocardial infarctus may develop after high temperatures.

CASE REPORT

A 55-year-old male patient was admitted to the emergency department with pressure-like chest pain, especially pain in the neck and arms. The patient's initial vital signs were; TA: 110/80, Pulse 89, Oxygen Saturation 96, Fever 36.5oC. Neurological examination was normal, GCS was 15. The patient has no known co-morbidities or smoking, and his ECG showed Normal sinus rhythm (NSR) and his troponin was: 600 CK 890 CK MB: 73. The patient was referred to cardiology. The patient was hospitalized and taken for angiography.

**Picture 1.** Electrocardiography image of the patient

DISCUSSION

In humans, exposure to heat increases basal body temperature, cardiac contractility, heart rate and blood flow, and reduces vascular endothelial tension (3). These effects are similar to those of exercise and are believed to improve vascular function in the long term. Studies show that exposure to heat induces the expression of heat shock protein 90, and when bound to endothelial nitric oxide synthesis (eNOS), eNOS produces nitric oxide, which leads to vasorelaxation, resulting in a reduction in CVD and CVD diseases (4). Contrary to the studies conducted in our case, the fact that our patient had a myocardial infarctus and had no previous co-morbidities despite Turkish baths being at high temperatures brings to our mind that high temperature environments may be other factors that increase MI. Especially in the Turkish bath application, we think that the intense massage application is not only exposure to hot water and foam, but also the body perceives it as an intense sports practice. There are previous studies showing that the number of baths per week reduces the risk of CAD and CVA. This is thought to be due to the fact that hot baths relax people and reduce blood pressure (5). It is thought that the results such as sudden cardiac death caused by high temperatures in bath applications such as saunas are not caused by vascular expansion, but by the body's sudden inability to regulate temperature and the effect of heat stroke (6,7).

In conclusion; Although exposure to hot baths in bath culture is thought to have a protective effect on CVS, we should keep in mind that massage applications during the bath may trigger myocardial infarction.

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Human War with Cold; Frostbite

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Introduction

Frostbite; These are pathological events that develop in tissues after long-term exposure to subzero temperatures. It is characterized by necrosis as a result of direct cell death or progressive dermal ischemia. While it is frequently seen in soldiers and mountaineers, its incidence has increased in common people in recent years. Behind this situation; The reasons

are the increase in homeless people and people in need of care, the increase in the rate of diabetes mellitus and the increase in vascular diseases. If treatment is not started early, it may lead to limb loss. Frostbite should be well recognized and appropriately managed, especially by emergency medicine physicians, both in rural and central hospitals (1-4).

In this case, we discussed our patient with frostbite on his 4 extremities, which is rare in our region.

Case Report

A sixty-six-year-old male patient applied to us with a complaint of bruises on both hands and feet. He stated that his bruises had been around for about a month and had increased in recent days, and that he did not feel any pain or pain. It was learned that he lived alone in a rural area and lived in a house with a stove, and his socioeconomic level was low. Blood pressure was measured as 110/70 mmHG, heart rate was 90/min, temperature was 37.2°C, and oxygen-free saturation value was 98%. In physical examination; There was bruising and coldness in both upper extremities, starting from the wrist level and extending distally. Again, there was a necrotic appearance and sensory deficit from the proximal phalanges to the distal in both hands. Bilateral ulna and radial pulses were taken. A demarcation line was formed approximately 5 cm proximal to the ankle in both lower extremities. There was coldness, bruising and sensory deficit distal to the demarcation line. While popliteal pulses were taken in both lower extremities, no pulses could be taken from the arteria tibialis posterior and arteria dorsalis pedis (Figure 1). In laboratory examinations; white blood cell 22 1000 mm³/L, hemoglobin 11.1 g/dL, platelet 39 000 mm³/L, ALT 394 U/L, AST 258 U/L, LDH: 636 U/L, CK: 2679 U/L, CRP : 130.9 mg/L, Amylase: 101 U/L, INR: 1.39. In the upper extremity Doppler ultrasonography; The flow rate and form of the radial and lar artery up to the wrist level were naturally monitored. In the lower extremity Doppler ultrasonography; popliteal artery flow rate and form were observed naturally. However, no blood flow was observed starting from the arteria tibialis posterior. Thereupon, in the lower extremity computed tomography angiography, no contrast migration was observed to the ankle and distal parts.

The patient was consulted with the orthopedics and traumatology clinic. The patient was hospitalized with amputation planned from both fingers and both ankles.

Discussion

In case of frostbite; The degree of cold and duration of exposure are the main determinants of prognosis. In addition to reasons such as inadequate shelter, low mental status, high altitude, smoking-alcohol-drug use, homelessness, old age, exposure to wetness in the cold for a long time, diseases such as diabetes mellitus, peripheral vascular diseases and arthritis can be considered among the main causes of frostbite (1, 3.5).

The degeneration mechanism begins with endothelial damage. Subsequently, platelet and leukocyte accumulation occurs and may progress to ischemia or even necrosis (2). Frostbite is more common in areas of reduced perfusion. Therefore, organs such as the ends of the extremities, hands, feet, nose and ears are at risk. The most distal part of the injured area is often the most severely injured, and degeneration is difficult to reverse. The proximal part is hyperemic and the degeneration is relatively easily reversible. The area where the injury is moderate to severe is the stasis zone and there is a possibility that it can be reversed, so it is very important (3).

Since these patients are exposed to cold for a long time, they may face risks such as dehydration and secondary infections, as well as frostbite (3). For this reason, clinicians should take these situations into consideration when evaluating patients.

Before proceeding with treatment, it is necessary to protect the affected area from trauma. First of all, the patient should be removed from exposure and if he/she is wearing wet clothing, he/she should be removed. Rubbing the affected limb with snow or exposing it directly to heat is one of the common misconceptions. The correct method is to heat with slowly circulating water heated to 40-42 °C. Pain control should be provided and then conditions such as dehydration and secondary infections should be evaluated. Warmed intravenous fluid can be given for hypothermia and appropriate antibiotics can be given for secondary infections. Ilioprost, a vasodilator, can be used to prevent freezing and ischemia. Thrombolytic therapy can be started in patients with ischemia and whose tissue perfusion does not improve even if heating methods are used. Heparin is another option and can be combined with thrombolysis. If formed, white bullae can be drained. However, hemorrhagic bullae, which are a sign of poor prognosis, should not be drained. To avoid unnecessary amputation, tissue perfusion can be expected to be restored for up to 6 weeks after injury. However, patients who develop compartment syndrome are candidates for emergency surgery (1-5).

A multimodal approach to treating frostbite patients may provide the best chance for functional recovery. It should be remembered that the correct and timely approach can save the limb from amputation. In many cases, frostbite can be prevented, so patient education is very important. Precautions must be taken against cold injury, especially in individuals with risk factors (3,4).

Conclusion

Frostbite is often seen in climbers, soldiers and in harsh climatic conditions. However, in recent years, there has been an increase in performance due to low socio-economic levels. Most of the time, frostbite can be prevented with precautions and education. The importance of starting the diagnosis quickly from the moment it is made is very important for the disease. Late admission to the hospital may result in loss. Therefore, while it creates a serious cost burden, it can seriously negatively affect the living and social life. Due to the continued progression of our case, it resulted in amputation of 4 extremities.

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Figure 1: Necrotic fingers and demarcation line (consent was obtained from the patient)

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A rare cause of abdominal pain in an adult with mental retardation - Foreign body in the vagina

Yasin YILDIZ, Hilal ÇIRALIOĞLU, Mustafa Nurullah ÇEKİÇ, Hasan YILDIZ

Konya Şehir Hastanesi Acil Tıp Kliniği

INTRODUCTION

Vaginal foreign bodies represent a rare condition characterized by prolonged, malodorous vaginal discharge and bleeding with obscure etiology. Patients may present with nonspecific symptoms such as nausea and abdominal pain alongside these symptoms. Studies regarding vaginal foreign bodies are predominantly in the form of case presentations, with few reports documented on this subject (1, 2).

This case presentation involves an adult patient with cerebral palsy who presented to the emergency department with complaints of nausea and abdominal pain, ultimately diagnosed with a vaginal foreign body on CT scan.

CASE

A 31-year-old female patient with cerebral palsy was brought to our emergency department by her relatives, complaining of nausea and abdominal pain that started in the morning. The patient had visited an outpatient clinic two days prior, where she was examined and discharged with antiemetic medication prescribed. On initial assessment, her Glasgow Coma Scale was normal, vital signs were within normal limits, and she had no fever. Physical examination revealed no guarding or rebound tenderness in the abdomen, and there was no distention noted. A computed

tomography (CT) scan of the abdomen revealed a dense appearance approximately 60 mm in diameter in the pelvic region (mass? calculus?)(Image 1, 2 and 3). Abdominal ultrasound reported an approximately 6 cm diameter structure in the posterior aspect of the bladder, suggestive of a foreign body that could potentially be located within the vagina. A rectal examination was performed, revealing a mobile, firm mass of approximately the same size on the left side, indicating that the foreign body was located in the vagina. Consultations were made with the Obstetrics and Gynecology, as well as General Surgery departments. General surgery did not consider immediate intervention necessary. The patient was admitted to the Obstetrics and Gynecology service for further investigation and treatment. It was decided that the foreign body would be removed under sedation in the operating room. Upon evaluation, a firm object was encountered approximately 5 cm inside the vaginal entrance, which was grasped with forceps and extracted using an ovarian clamp. No additional foreign bodies were identified. Suturing or cauterization was not deemed necessary for the minimal bleeding observed in the vagina. The patient was discharged in good condition on the second postoperative day.

DISCUSSION

Vaginal foreign bodies can cause nonspecific symptoms such as prolonged and malodorous vaginal discharge, intermittent genital bleeding, and dysuria, regardless of their localization. A rare but significant finding associated with vaginal foreign bodies is vaginal atresia, which typically manifests as a complication (3).

Vaginal foreign bodies are more commonly observed in children (4). In adults, they can present with various symptoms including vaginal discharge, bleeding, and abdominal pain. Abdominal pain can be present in up to 20% of these cases (2). Intravaginal foreign bodies are typically detected through gynecological examination or imaging studies. However, in our case, the patient presented to the emergency department with nonspecific complaints such as nausea and abdominal pain, rather than typical symptoms associated with vaginal foreign bodies. We attribute this presentation to the patient's existing mental retardation.

In cases of vaginal foreign bodies, obtaining a comprehensive history poses a challenge in both pediatric and adult patients. Due to ethical and societal pressures, sufficient information may not be obtained during the history-taking process. Consequently, the time taken to resolve the issue and the accompanying problems become significant. In the case we reported, no information regarding the incident could be obtained from the family, and the patient's cerebral palsy further complicated the history-taking process. Such incidents can occur not only due to accidents or abuse but also as a result of curiosity in children or patients with developmental disabilities, combined with inadequate education and negligence on the part of the family.

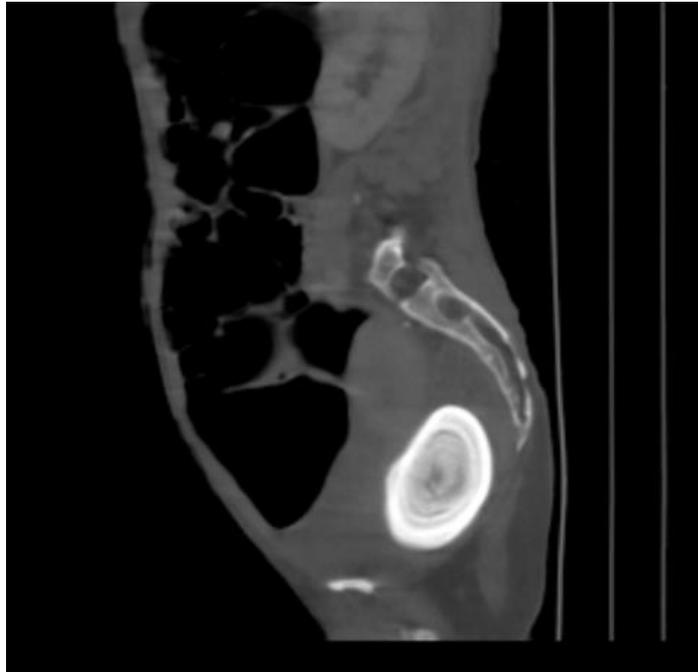
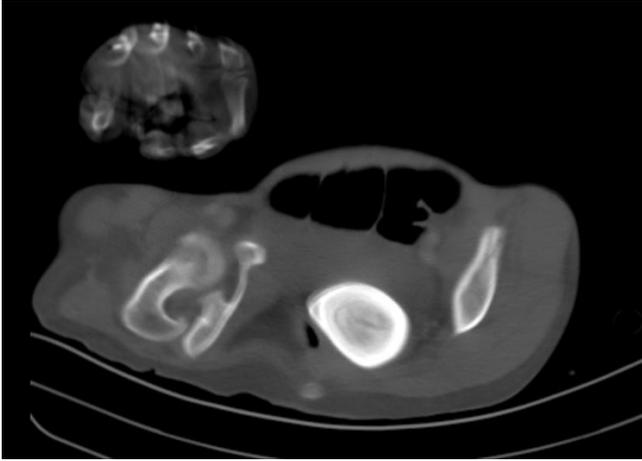
When vaginal foreign bodies are located near adnexal structures, particularly in cases involving computed tomography imaging, they can mimic adnexal masses depending on the nature of the foreign body (2). In our case, the foreign body was located intravaginally.

Removal of foreign bodies typically does not pose significant challenges. Following cystoscopy or vaginoscopy, once the normal anatomy is visualized and the foreign body is identified, it can be extracted (5). However, in cases where the hymen is intact, obtaining formal consent from the family before the procedure is essential to prevent potential legal issues in the future. In our patient, a legal report was filed, and consent was obtained from the family. Evaluation revealed that the hymen was not intact.

In conclusion, vaginal foreign bodies should be considered in the differential diagnosis of abdominal pain, particularly in female patients with mental retardation such as cerebral palsy or psychiatric disorders such as schizophrenia.

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An Urgent Consideration in the Emergency Department: Posterior Reversible Encephalopathy Syndrome (PRES)

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ABSTRACT

Introduction: Posterior Reversible Encephalopathy Syndrome (PRES) is a clinical entity characterized by reversible vasogenic edema, first described in 1996. While hypertension is a primary factor in its pathogenesis, cases have been reported without severe hypertension.

Case: We present an 85-year-old female patient who was found unconscious at home and brought to the emergency department. She had elevated blood pressure and a history of hypertension. Despite a normal brain CT, MRI was inconclusive due to unavailability. The patient was admitted with a presumptive diagnosis of PRES.

Discussion/Conclusion: PRES poses diagnostic challenges, as it can occur without severe hypertension and may present with nonspecific symptoms. MRI typically reveals characteristic findings in the parieto-occipital regions. Early diagnosis and treatment are crucial for reversibility, emphasizing the importance of addressing underlying causes. Our patient showed clinical improvement with prompt intervention, highlighting the need for vigilance in recognizing and managing PRES in clinical practice.

Keywords: Hypertension, Posterior Reversible Encephalopathy Syndrome (PRES), Vasogenic Edema.

An Urgent Consideration in the Emergency Department: Posterior Reversible Encephalopathy Syndrome (PRES)

Introduction

Posterior reversible encephalopathy syndrome (PRES) is a clinical entity first described in 1996, characterized by headache, seizures, nausea, vomiting, visual disturbances, focal motor deficits, and altered mental status (1,2). Although the exact pathophysiology of PRES remains unclear, hypertension and endothelial dysfunction are implicated in its development, both of which disrupt the blood-brain barrier leading to vasogenic cerebral edema (3). Known precipitating factors for PRES include hypertensive encephalopathy, preeclampsia and eclampsia, immunosuppressive and cytotoxic drugs, hypertensive renal failure, hepatic failure, elevated liver enzymes and low platelets (HELLP) syndrome, collagen vascular diseases, thrombotic thrombocytopenic purpura, high-dose steroid use, massive blood transfusion, acute intermittent porphyria, organ transplantation, and human immunodeficiency virus (4). Computed tomography (CT) and magnetic resonance imaging (MRI) can be used for the diagnosis of PRES, with CT typically showing nonspecific changes, whereas MRI demonstrates more specific findings (5). MRI is preferred over CT for diagnosis because while brain CT may appear normal, MRI readily reflects the characteristic features of cerebral edema, exhibiting bilateral and symmetric involvement in the occipital and parietal regions (3,6). Early diagnosis and prompt treatment can lead to reversibility of the syndrome (5). However, if left untreated and the underlying cause is not addressed, irreversible brain damage may ensue (3). This case presentation illustrates a patient brought to the emergency department with altered consciousness and subsequently diagnosed with PRES.

Case

An 85-year-old female patient was found lying face down at home in the morning by her relative and was brought to the peripheral emergency department via ambulance. Upon evaluation, the patient was intubated, and no pathology was detected on brain CT or pulmonary CT angiography. Due to the need for further assessment and MRI, the patient was referred to our

emergency department. On arrival, the patient had a Glasgow Coma Scale (GCS) of 3 while sedated, blood pressure of 230/110 mmHg, heart rate of 52 beats per minute, fingertip blood glucose level of 152 mg/dL, and a temperature of 36.7°C. Due to sedation, neurological examination could not be performed. Blood tests were within normal limits. An electrocardiogram revealed a left bundle branch block; Sgarbossa and Modified Smith criteria were negative. The brain CT performed at the peripheral center was interpreted as normal. The patient underwent diffusion-weighted MRI, which was also interpreted as normal. Intravenous esmolol was initiated as anti-hypertensive treatment in the emergency department. Since cranial MRI could not be performed in the emergency department, the patient was admitted to the intensive care unit with a presumptive diagnosis of PRES.

Discussion

The term PRES was first coined by Hinchey et al. in 1996 to describe a radiological syndrome characterized by bilateral, symmetric, and reversible vasogenic edema (1). There are not many studies in the literature reporting the gender distribution of PRES. In a 15-case series by Hinchey et al., the female-to-male ratio was reported as 13:2 (1). In a study by Aydın et al., which examined 5 patients diagnosed with PRES over 5 years, it was found that all patients were female. The age range of the patients was between 18 and 28 years old, with a mean age of 24.4 years (6). In contrast, our patient was 85 years old. Patients typically present with symptoms such as headache, altered mental status, seizures, and symptoms associated with the occipital lobe. Symptoms may have an acute or subacute onset, followed by seizures. Other manifestations may include disturbances in consciousness and behavior, lethargy, stupor, and coma, or may be detected only as irritability and anxiety (6). In our case, the patient was brought to the hospital with a closed level of consciousness.

Among the causes of PRES are hypertension, sepsis and septic shock, preeclampsia and eclampsia, autoimmune diseases, electrolyte disturbances (such as hypercalcemia and hypomagnesemia), and medications. These medications include cyclophosphamide, methotrexate, cytarabine, vincristine, metronidazole, acyclovir, and infliximab (3, 7). In the study by Aydın et al., 4 out of 5 patients presented with hypertension (6). Similarly, our patient had elevated blood pressure values upon presentation.

In PRES, brain CT can be normal. In fact, in one study, only one patient had a hypodense area on CT, while the others were considered normal (6). In our patient, brain CT was reported as normal. MRI typically reveals hyperintensity characterized by vasogenic edema in the bilateral parieto-occipital regions (3, 8). However, evaluation could not be performed in our patient due to the inability to obtain cranial MRI in the emergency department.

In most studies, a sudden increase in blood pressure is suggested to be the cause of PRES. This increased blood pressure leads to vasospasm, resulting in cytotoxic edema. Another view regarding the etiology is the development of dilation in cerebral arterioles due to impaired cerebral autoregulation. In current literature, the hyperperfusion theory is widely accepted as the explanation for the pathophysiology of PRES (3, 9).

While sudden hypertension remains a primary factor in the pathogenesis, there have been reports of PRES occurring without severe hypertension (1, 10). In our case, the patient had elevated systolic and diastolic blood pressure values upon presentation, and hypertension was listed as a comorbidity in the medical history.

Studies and pathological evaluations have revealed findings such as fibrinoid necrosis in arteriolar walls, interstitial edema, and foci of petechial microhemorrhages, but infarction has not been observed. In cases of PRES associated with hypertension, vasospasm in arteries supplying the posterior circulation has been identified during hypertensive crises (11, 12).

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Conclusion

PRES poses diagnostic challenges, as it can occur without severe hypertension and may present with nonspecific symptoms. MRI typically reveals characteristic findings in the parieto-occipital regions. Early diagnosis and treatment are crucial for reversibility, emphasizing the importance of addressing underlying causes.

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Simultaneous Detection of Aortic Aneurysm and Spontaneous Colon Perforation in a Patient Presenting with Abdominal Pain

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SBÜ Konya Şehir Hastanesi Acil Tıp Kliniği

Introduction:

Abdominal aortic aneurysm (AAA) is defined by a transverse diameter of the abdominal aorta exceeding twice the normal size below the diaphragm. It represents a progressive and irreversible condition. It typically remains asymptomatic unless it ruptures, necessitating rupture for symptomatic presentation.

Spontaneous colon perforations generally manifest in elderly patients, with an average age of 60 years. Chronic constipation often accompanies these cases.

Herein, we present a case of a patient presenting to the emergency department with abdominal pain, diagnosed simultaneously with AAA and spontaneous colon perforation.

Case:

A 67-year-old male patient presented to the emergency department with abdominal pain persisting for 3 days. History revealed that he had visited an external emergency department the day prior, where his X-rays were interpreted as normal, and he was discharged after receiving intravenous therapy. On arrival, his Glasgow Coma Scale (GCS) was 15, vital signs

were stable, and he had no fever. Physical examination revealed abdominal distension and diffuse tenderness in all quadrants. No palpable mass was detected in the abdomen. Blood pressure was equal in both arms, and there was no orthostasis. Electrocardiogram (ECG) showed normal sinus rhythm. Chest and standing abdominal X-rays revealed free air under the diaphragm (Image 1). Contrast-enhanced computed tomography angiography of the aorta was performed with a pre-diagnosis of aortic dissection. Imaging showed widespread free fluid around the liver and spleen and in the pelvic region, along with free air below the diaphragm and around the spleen. A 4 cm wide aortic aneurysm extending to both iliac arteries with a thrombus of up to 15 mm was detected at its widest point. There was no contrast extravasation outside the aorta (Images 2 and 3). The patient was started on intravenous dual antibiotic therapy, proton pump inhibitor, and fluid therapy. He was consulted to the general surgery department, and due to the suspicion of colon perforation, he was admitted to the intensive care unit for urgent surgery.

Discussion:

AAA is the most common form of aneurysm, with a mortality risk of approximately 85-90% due to rupture. The disease is particularly prevalent in males and smokers. Rupture represents the leading cause of death in patients with aneurysms. In Turkey, the prevalence of AAA in the 60-80 age group is reported to be around 1.5% (1, 3).

The clinical presentation of AAA can vary from asymptomatic to symptomatic and ruptured forms. Approximately 75% of all AAAs are asymptomatic, and only about 15% of AAAs larger than 3.5 cm in diameter can be detected by physical examination. Most are incidentally detected during imaging studies for other reasons. Ultrasonography (USG) has a sensitivity of approximately 95-100% and a specificity of around 100% in AAA screening. However, computed tomography (CT) is considered the best method for the definitive diagnosis of AAA and evaluation of its relationship with surrounding tissues. Treatment options for AAA include medical and surgical approaches (1, 4 ,5). In our case, AAA was incidentally detected during imaging performed for the evaluation of abdominal pain.

Colon spontaneous perforation is defined as the spontaneous perforation of the colon mucosa without the presence of tumors, diverticula, or trauma, and its exact pathophysiology remains unclear. It is an exceedingly rare occurrence, often overlooked, with relatively high mortality rates. The most commonly implicated etiology is thought to be fecalith-induced obstruction. This condition typically develops in patients with chronic constipation. In cases of spontaneous colon perforation, diagnosis is often challenging preoperatively without the classical triad of rectal bleeding, tenesmus, and acute abdomen. Additionally, some patients may present with epigastric pain and a history of peptic ulcers, further complicating diagnosis. The most crucial diagnostic indicator is the radiological demonstration of pneumoperitoneum. Contamination of the abdominal cavity due to perforation occurs in these cases, necessitating immediate surgical intervention upon diagnosis. In our case, the patient had a history of chronic constipation, along with symptoms of acute abdomen and evidence of pneumoperitoneum, leading to prompt transfer from the emergency department to the operating room.

In conclusion, presentations of elderly patients hold significant importance in the emergency department. Early diagnosis and referral to the surgical team in cases with indications are crucial for these patients. Moreover, in patients presenting with acute abdomen, the possibility of multiple vital diagnoses concurrently should be considered.

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Image 1. Free air images are observed under the right diaphragm on the chest X-ray (left image) and under the left diaphragm on the upright abdominal X-ray (right image).

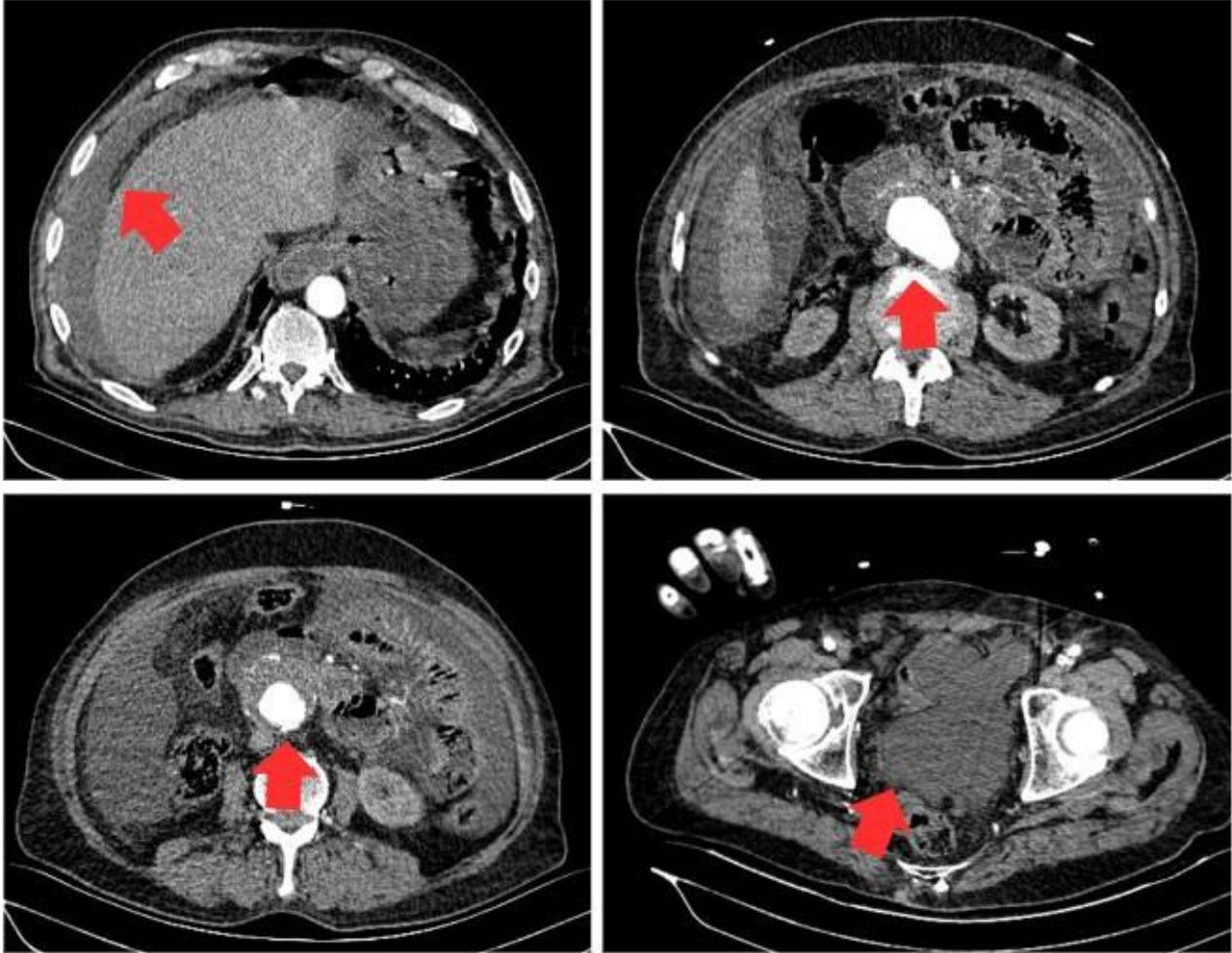


Image 2. Contrast-enhanced CT angiography demonstrates widespread free fluid around the liver and in the pelvic region, as well as aneurysmal dilation and intramural thrombus formation within the abdominal aorta (arrows).

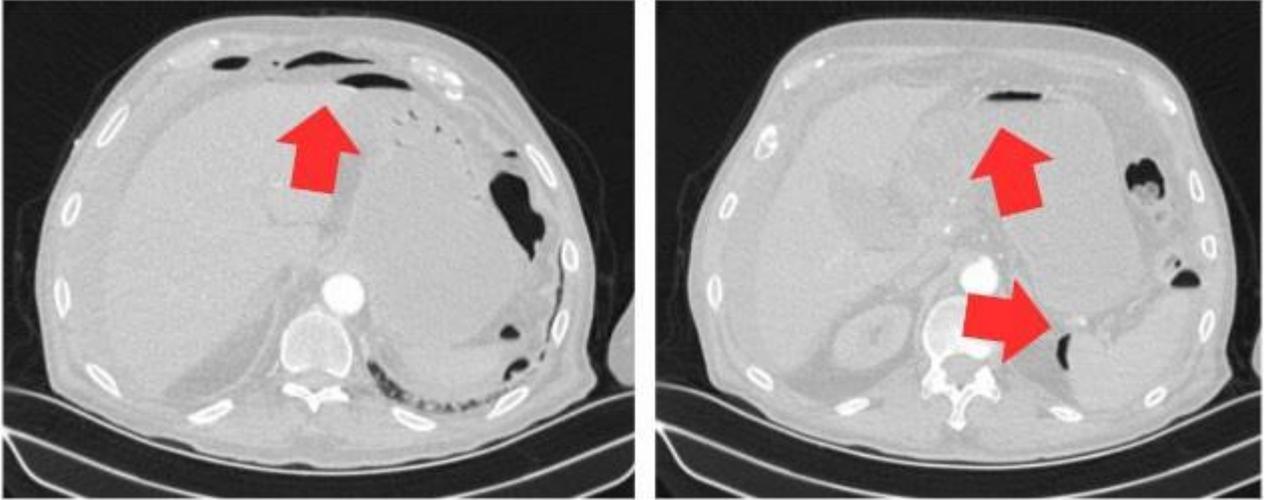


Image 3. Free air views for the abdomen in the lung window of the CT scan (arrows).

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Post-Dural Puncture Headache

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Introduction:

Post-dural puncture headache (PDPH) is a complication that arises following interventions aimed at cerebrospinal fluid (CSF) examination or spinal-epidural anesthesia procedures (1). The International Headache Society defines PDPH as bilateral headache starting within 7 days after the intervention and resolving within 14 days (2).

Given that PDPH significantly impairs patients' quality of life, it should be well recognized and managed by physicians (1).

In this case, we aim to present a patient who presented to the emergency department due to postoperative headache following epidural anesthesia, with PDPH considered in the diagnosis.

Case:

A 19-year-old male patient presented to the emergency department with a headache that had been ongoing for several days. His Glasgow Coma Scale (GCS) was 15, vital signs were stable, and he had no fever. On physical examination, there was no neck stiffness noted, and cranial nerves were found to be normal. Upon history taking, it was learned that the patient had undergone surgery under epidural anesthesia for pilonidal sinus one week ago. No abnormalities were detected in the patient's investigations. Post-dural puncture headache secondary to epidural anesthesia was considered in the patient. Despite treatment with intravenous paracetamol, the patient did not experience relief, so intravenous dexketoprofen and metoclopramide were added to the treatment regimen. The patient was advised to drink coffee orally. With this treatment regimen, the patient's symptoms improved, and he was discharged with instructions for outpatient follow-up and advised to drink several cups of coffee daily.

Discussion-Conclusion:

The clinical presentation of PDPH resulting from dural tears following intrathecal or epidural procedures has been recognized since ancient times and was even first described in 1898 (3).

Various theories have been proposed regarding the mechanisms underlying PDPH formation. All these theories attribute cerebrospinal fluid (CSF) leakage through the dural tear following the procedure. When CSF leakage is significant, intracranial pressure decreases, leading to dilation of intracerebral arteries and veins. Additionally, CSF loss causes tension on pain receptors within the cranium. As a result of these mechanisms, patients typically experience headaches (2, 4, 5).

The frequency of this clinical condition, reported to be 66% in the years it was identified, has decreased to levels around 3% nowadays, attributed to the use of smaller diameter and modern needles (6).

While some studies in the literature have attributed a higher risk to female gender, this finding has not been consistently supported by other clinical studies. Particularly among young patients aged 18-30 years, an increased susceptibility has been observed. Additionally, increased body mass index has been reported to reduce the frequency of PDPH. Our case, being young and not overweight, is consistent with the literature (1).

From a clinical perspective, although it has been reported to occur at later stages, PDPH generally manifests within 7 days after the procedure. It is described as a severe and dull pain, primarily in the frontal and occipital regions, less commonly in the neck and upper shoulders. Symptoms may include nausea, vomiting, auditory and visual disturbances, dizziness, and neck stiffness. Symptoms generally resolve spontaneously within two weeks. Typically, the pain worsens within 15 minutes after transitioning from a lying position to sitting or standing, and it alleviates within 30 minutes after returning to the lying position (1). In our case, there was a dull headache primarily located in the frontal region, occasionally accompanied by episodes of nausea.

The diagnosis of PDPH requires a detailed history and physical examination. However, when making the diagnosis, alternative pathologies should also be considered. Differential diagnoses such as spinal abscess, spinal hematoma, septic or aseptic meningitis, intracranial mass, cerebral aneurysm, cerebral thrombophlebitis, intracranial hemorrhage, or drug-related toxicity should be evaluated (7). When diagnosis cannot be established through clinical evaluation, imaging modalities should be utilized, especially in the presence of neurological signs or when PDPH changes its character during follow-up, and neurology consultation should be sought (8).

The treatment of PDPH is often straightforward. Although it may resolve spontaneously within six weeks without treatment, the number of patients seeking treatment due to pain is rapidly increasing. Patients often do not benefit significantly from recommended bed rest. Symptomatic and supportive treatments are usually the first choice in therapy. Patients with PDPH generally respond positively to oral or intravenous fluid therapy. Although it is thought that increasing vascular volume for veins might increase CSF production, there is insufficient evidence (1). Caffeine, commonly used in treatment, has been found to work by causing vasoconstriction in dilated cerebral blood vessels and reducing cerebral blood flow (9). The dosage of caffeine commonly used for PDPH is between 300-500 mg once or twice daily. There is approximately 50-100 mg of caffeine in a cup of coffee. However, the effect of caffeine is temporary and can have toxic effects on the central nervous system even at therapeutic doses, leading to atrial fibrillation. The use of theophylline has been found to be easy and effective for PDPH. It provides approximately 60% reduction in pain. The gold standard treatment is considered to be epidural blood patch application (8).

In conclusion, the clinical entity of PDPH, which affects patients' quality of life, should be well recognized by emergency physicians, appropriate symptomatic treatment should be provided, and patients should be referred for outpatient follow-up.

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Acil Servislerde Yapay Zeka (YZ) ile ilgili yapılmış çalışmaların analizi

Anahtar Kelimeler: Acil Tıp; Yayın; Yapay Zeka.

Analysis of studies conducted on Artificial Intelligence (AI) in Emergency Services

Keywords: Emergency Medicine; Publication; Artificial Intelligence.

Acil Servislerde Yapay Zeka (YZ) ile ilgili yapılmış çalışmaların analizi

ÖZET

Amaç: Tıpta yapay zeka (YZ) yöntemlerini kullanan makale sayısının yıllara göre arttığı gözlenmektedir. YZ, acil tıp içindeki tanısal görüntülemenin yorumlanması, hasta sonlanımının tahmin edilmesi ve hastanın yaşamsal bulgularının izlenmesi dahil sayısız uygulamada umut vaat etmektedir. Bu çalışma, acil servis özelinde 2020 yılından sonra YZ ile ilgili yapılmış çalışmaların bibliyometrik olarak incelenmesi amacıyla gerçekleştirildi.

Gereç ve Yöntem: Google Akademik üzerinden bir arama yapıldı. Acil servisler ile ilgili yapılmış olan YZ konulu çalışmalar kaydedildi. Çalışmalar türü, yapıldığı kurum, konusu, dergisi, yöntemi ve sonucu açısından incelendi.

Bulgular: 2020 yılından bu yana, acil serviste yapay zeka konusu ile ilgili yapılmış olan beş çalışma bulundu. Bunların biri 2020, üçü 2021 ve biri 2022 yılında yapılmıştı. Acil Tıp branşında yapılan üç çalışmanın tamamı da 2021 yılında yayınlanmıştı. Bunların tamamı derleme türündeydi.

Sonuç: Çalışmamızda, 2020 yılından bu yana acil servislerde YZ ile ilgili konularda yapılmış yalnızca 5 çalışmaya ulaşabildik. Bunun yeterli olmadığı kanaatindeyiz. Acil tıp, doğası gereği sürekli güncellenen, tıp alanındaki son güncel gelişme ve yenilikleri ilk uygulayan bilim

dallarından biri olmuştur. Yapay zeka da, bu vizyonun dışında bırakılmamalı, acil servislerde YZ kullanımını konusunda daha fazla çalışmaya vakit ayrılmalıdır.

Analysis of studies conducted on Artificial Intelligence (AI) in Emergency Services

ABSTRACT

Aim: It is observed that the number of articles utilizing artificial intelligence (AI) methods in medicine has increased over the years. AI holds promise in numerous applications within emergency medicine, including the interpretation of diagnostic imaging, predicting patient outcomes, and monitoring vital signs. This study was conducted with the aim of bibliometrically analyzing studies related to AI in emergency medicine (EM) specifically after the year 2020.

Materials and Methods: A search was conducted on Google Scholar. Studies related to AI in emergency services were recorded. The studies were examined in terms of their type, branch, subject, journal, methodology, and results.

Results: Since 2020, five studies related to AI in the emergency department have been identified. One was conducted in 2020, three in 2021, and one in 2022. All three studies in the EM field were published in 2021. All of them were of the review type.

Conclusion: In our study, we were able to identify only five works related to AI in emergency services since 2020, a number that we find insufficient. EM, by its very nature, is one of the disciplines that constantly incorporates the latest developments and innovations in the field of medicine. AI should not be excluded from this vision, and more dedicated efforts should be made to explore its applications in emergency services. The limited number of studies highlights the need for increased attention and research dedicated to the use of AI in emergency departments.

Analysis of studies conducted on Artificial Intelligence (AI) in Emergency Services

INTRODUCTION:

The term artificial intelligence (AI) was first defined by John McCarthy as "the science and engineering of making intelligent machines, especially intelligent computer programs" (1).

In other words, it involves the replication of intelligent behaviors, commonly termed as intelligence when performed by humans, by devices. It comprises methods that aim to model human thinking abilities and the functioning of the brain. The goal of artificial intelligence is to mimic human intelligence through computer-mediated means and, in this sense, impart a certain degree of learning ability to computers (2).

Since 1969, AI techniques, consisting of programs that mimic human intelligence by modeling thinking abilities and brain functions, have been utilized in various medical applications, yielding promising results (3). There are numerous AI techniques with the capacity to address various clinical problems. The potential of these methods in investigating and treating diseases sparks curiosity (2).

When examining the PubMed database to assess the use of AI methods in medical publications, an observed increase in the number of articles utilizing these techniques over the years underscores the growing significance of AI in medicine (4).

AI holds promise in numerous applications within emergency medicine, including the interpretation of diagnostic imaging, predicting patient outcomes, and monitoring vital signs (5).

This study was conducted with the aim of bibliometrically analyzing studies related to AI in emergency medicine specifically after the year 2020.

MATERIALS AND METHODS:

A search was conducted on Google Scholar by entering the keywords "emergency department artificial intelligence" and "emergency medicine artificial intelligence" into the search bar. Studies related to artificial intelligence in emergency services and emergency patients on the first 10 pages of the search results were recorded in a prepared data table. The studies were examined in terms of their type, branch, subject, journal, methodology, and results.

RESULTS:

Since the year 2020, five studies related to artificial intelligence in the emergency department have been identified (Table 1). One was conducted in 2020, three in 2021, and one in 2022.

A research article titled "Artificial Intelligence in Emergency Diagnosis and Triage of Intracranial Hemorrhage" was conducted in the field of Neurosurgery in 2020. The study aimed to evaluate a deep learning model capable of distinguishing the presence of intracranial hemorrhage using a small dataset. The results of the study suggested that a deep learning model could yield highly accurate results even with a small dataset, indicating its potential use for rapid triage in emergency departments.

Three studies conducted in the Emergency Medicine field were all published in the year 2021. The first one, titled "Artificial Intelligence Applications in Emergency Services," was conducted as a review. This compilation aimed to provide a general overview of current artificial intelligence research related to emergency medicine. Despite some existing limitations, the study concluded that various well-defined problems in clinical areas could be effectively addressed using current artificial intelligence techniques and algorithms.

The second study in the Emergency Medicine field was conducted in the form of a mini-review, titled "The Use of Artificial Intelligence in Emergency Services." In this study, research related to artificial intelligence in emergency medicine was examined. As a result, it was inferred that "Artificial intelligence has the potential for various applications in emergency services, including patient triage, interpretation of diagnostic tests, and the entire process of diagnosis and treatment. Advances in artificial intelligence algorithms hold promise for the field of medicine."

The third and final study in the Emergency Medicine field was titled "Emergency Medicine and Artificial Intelligence." This study also took the form of a compilation, gathering recent research on the use of artificial intelligence in emergency medicine. As a result, it was concluded that "Artificial Intelligence applications in emergency services enhance service quality and reduce workload. They decrease human errors, assist clinicians in decision-making, but the possibility of erroneous decisions by AI systems should not be overlooked. Additionally, there is a need for medicolegal regulations concerning the use of AI."

The sole study conducted in the year 2022 was organized as a research article under the title "Time Series Analysis and Application of Machine Learning Methods for Predicting the Number of Emergency Department Visits." This study was conducted in the field of Industrial Engineering. The research aimed to predict the number of emergency department visits using a

dataset with a seasonal cycle, employing a combination of time series analysis and machine learning methods. The results indicated that the Seasonal Autoregressive Integrated Moving Average (SARIMA) method, a time series analysis technique, provided more effective results in predicting the number of visits to the emergency department compared to other methods.

DISCUSSION:

AI programs are software applications that enable the execution of tasks related to high-level cognitive processes, such as reasoning, discovery of meaning, generalization, and learning from experiences, by processing a vast amount of data through computer-mediated means (6).

Two fundamental developments from the early 2000s to the present have significantly contributed to the use of AI in the healthcare sector. The first is the establishment of advanced databases where the electronic health records of numerous patients and asymptomatic individuals can be systematically recorded. The second is the development of hardware-intensive, high-performance computing capabilities in powerful computers (7).

The use of AI applications and deep learning algorithms in the field of medicine, especially in emergency services, is rapidly increasing (4).

One of the most studied areas of AI in emergency services is triage systems. With the recent integration of AI into triage applications becoming routine, it is anticipated that the analysis based on the patient's presenting complaints, medical history, and vital parameters will provide more accurate guidance (6).

Another potential application of AI in the emergency department is the analysis of electrocardiograms (EKGs). Currently used commercial EKG interpretation algorithms often make significant misdiagnoses. AI programs developed for EKG interpretation show promise in addressing this issue (6).

In the diagnostic and treatment processes in emergency services, imaging techniques are frequently employed. Significant progress has been made in the interpretation of radiology images by AI using deep learning algorithms (8).

While AI seems far from replacing a physician entirely, there is a growing number of applications being developed to assist healthcare professionals. Machine learning has the potential to predict and detect diseases in the emergency department (6). Various AI programs exist to predict diseases commonly seen in the emergency department, such as acute kidney failure, sepsis, urinary system infections, and appendicitis, offering promise for the future (9).

The potential features that AI currently possesses and will acquire in the future raise significant ethical issues. Ethical and social concerns encompass a wide array of dimensions, including the potential for misuse, erroneous decision-making leading to biased recommendations, issues with preserving the privacy of sensitive data, fostering discrimination, harboring biases, compromising professional autonomy, dependency on AI, inequality, and the inability to achieve social justice. The use and development of AI should be monitored by independent bioethical groups and international organizations. Regulations should be established, accompanied by periodically updated guidelines, to ensure the development and use of AI systems consistent with ethical values (10).

CONCLUSION:

In our study, we were able to identify only five works related to AI in emergency services since 2020, a number that we find insufficient. Emergency medicine, by its very nature, is one of the disciplines that constantly incorporates the latest developments and innovations in the field of medicine. AI should not be excluded from this vision, and more dedicated efforts should be made to explore its applications in emergency services. The limited number of studies highlights the need for increased attention and research dedicated to the use of AI in emergency departments.

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Table 1. Emergency Department Studies on Artificial Intelligence After 2020 and Their Characteristics

No	Study name	Year	Branch	Journal	Type	Method / Aim	Result
1	Artificial Intelligence in Emergency Diagnosis and Triage of Intracranial Hemorrhage	2020	Neurosurgery	Journal of Medical Innovation Technology	Research article	The aim was to evaluate a deep learning model capable of distinguishing the presence of intracranial hemorrhage using a small dataset.	The results of the study suggested that a deep learning model could yield highly accurate results even with a small dataset, indicating its potential use for rapid triage in emergency departments.
2	Artificial Intelligence Applications in Emergency Services	2021	Emergency Medicine	Journal of Artificial Intelligence in Health Sciences	Review	This compilation aimed to provide a general overview of current artificial intelligence research related to emergency medicine.	Despite some existing limitations, the study concluded that various well-defined problems in clinical areas could be effectively addressed using current artificial intelligence techniques and algorithms.
3	The Use of Artificial Intelligence in Emergency Services	2021	Emergency Medicine	Aksaray University Journal of Medical Sciences	Mini-review	Research related to artificial intelligence in emergency medicine was examined.	Artificial intelligence has the potential for various applications in emergency services, including patient triage, interpretation of diagnostic tests, and the entire process of diagnosis and treatment. Advances in artificial intelligence algorithms hold promise for the field of medicine.
4	Emergency Medicine and Artificial Intelligence	2021	Emergency Medicine	Anatolian Journal of emergency Medicine	Review	This study also took the form of a compilation, gathering recent research on the use of artificial intelligence in emergency medicine.	Artificial Intelligence applications in emergency services enhance service quality and reduce workload. They decrease human errors, assist clinicians in decision-making, but the possibility of erroneous decisions by AI systems should not be overlooked. Additionally, there is a need for medicolegal regulations concerning the use of AI.
5	Time Series Analysis and Application of Machine Learning Methods for Predicting the Number of Emergency Department Visits	2022	Industrial Engineering	Pamukkale University Journal of Engineering Sciences	Research article	The research aimed to predict the number of emergency department visits using a dataset with a seasonal cycle, employing a combination of time series analysis and machine learning methods.	The results indicated that the Seasonal Autoregressive Integrated Moving Average (SARIMA) method, a time series analysis technique, provided more effective results in predicting the number of visits to the emergency department compared to other methods.

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Concomitant Acute Pancreatitis and Subdural Hematoma in a Patient

INTRODUCTION

Emergency departments are healthcare facilities where any citizen who perceives themselves in need of urgent medical attention can present with any complaint at any time of the day. Especially in recent years, there has been a significant increase in emergency department visits in our country. Due to the high number of visits, there is also an increase in critical diagnoses that emergency department physicians must not overlook. Within the daily practice of emergency departments, these vital diagnoses can sometimes be identified simultaneously in certain cases.

Abdominal pain is one of the reasons for presenting to the emergency department, with a frequency of 5-8% (1). Acute pancreatitis, on the other hand, is one of the differential diagnoses in patients with abdominal pain, with a frequency ranging from 5 to 80 per 100,000 (2). Subdural hematoma (SDH) is another clinical diagnosis, more commonly seen in elderly patients and rarely in young individuals, posing a life-threatening condition, although its true incidence remains unknown (3).

Here, we present a case of a patient who presented to the emergency department with complaints of abdominal pain and altered consciousness, where diagnoses of acute pancreatitis and subdural hematoma were concurrently identified.

CASE

A 90-year-old male patient was brought to our emergency department complaining of inability to pass gas or stool for one day, abdominal pain, and 2-3 episodes of black-colored vomiting. His medical history revealed benign prostatic hyperplasia (BPH) as his only comorbidity, and he reported irregular use of aspirin for treatment purposes. Upon arrival, the patient was found

to be somnolent with limited cooperation and orientation. Vital signs at presentation were blood pressure 193/82 mmHg, heart rate 66 beats per minute, oxygen saturation 95% on room air, and temperature 36.7°C. Physical examination revealed abdominal distension without any other specific findings.

A nasogastric tube was inserted, and during the initial two-hour observation, approximately 300cc of dark black fluid and 300cc of bilious fluid were drained. Electrocardiography showed a normal sinus rhythm. Laboratory investigations revealed elevated white blood cell count ($18.37 \times 10^3/\mu\text{L}$), AST (aspartate aminotransferase) 308 U/L, ALT (alanine aminotransferase) 180 U/L, GGT (gamma-glutamyl transferase) 194 U/L, total bilirubin 1.39 mg/dL, amylase 1699 U/L, and lipase 3200 U/L. Computed tomography scans of the brain and abdomen were requested. Brain CT demonstrated a hyperdense appearance consistent with an acute-chronic subdural hematoma measuring approximately 25mm in thickness at the right parietal region (Image 1). Abdominal CT revealed fluid collection at the level of the pancreatic head and enhancement of the pancreatic duct, leading to a preliminary diagnosis of acute pancreatitis (Image 2).

The patient was consulted to the Departments of Neurosurgery and Gastroenterology for further management. He was admitted to the Intensive Care Unit under the care of Neurosurgery for advanced monitoring and treatment.

DISCUSSION

Acute pancreatitis (AP) is a clinical diagnosis that should be considered in cases presenting with abdominal pain, nausea, and vomiting. The clinical symptoms and signs vary depending on age and the severity of the attack. Sudden onset of abdominal pain, nausea, vomiting, and abdominal distension are common symptoms and signs. In etiology, gallstones and alcohol are responsible for about 90% of cases. Other causes include abdominal trauma, hypertriglyceridemia, pancreatic or ampullary tumors, medications, hypothermia, infectious causes, procedures, and surgical interventions. In about 10% of cases, no cause can be identified. In our case, neither stones nor alcohol were found as etiological factors.

In AP, blood and urine amylase, serum lipase, serum elastase 1, serum trypsin, serum phospholipase A2, CRP, interleukin 6-8, and procalcitonin levels may increase. However, the commonly used diagnostic methods in AP are serum amylase and lipase determination, along with imaging techniques such as ultrasound and CT scans. The sensitivity of serum amylase in diagnosing AP ranges from 67% to 100%, with a specificity of 85% to 98%, while the sensitivity of lipase ranges from 82% to 100%, with a specificity of 82% to 100%. In our case, elevated serum amylase and lipase levels were detected, and the preliminary diagnosis of acute pancreatitis was reported based on the abdominal CT scan.

CT is the gold standard for diagnosing AP and evaluating cases. It provides better anatomical delineation and can reveal complications such as pancreatic inflammation and necrosis. Additionally, CT assists in determining the clinical severity and prognosis (2). In our case, the diagnosis of AP was confirmed by CT.

Subdural hematoma (SDH) typically occurs as a result of tearing of the bridging veins that connect the dural sinuses to the superficial veins of the brain (5). It can also occur due to arterial bleeding (6). It is commonly seen in the elderly, alcoholics, individuals with brain atrophy, those with intracranial aneurysms, those taking anticoagulant medications, and those who have experienced trauma (7). A study examining 100 patients with SDH found a history of trauma in 80% of patients, medication causing coagulation disorders in 22%, and alcoholism in 11% (8). Another study of 322 patients aged 65 and older reported a history of head trauma in over half of the patients and a history of anticoagulant medication use in one-third (7). In our case, there was no history of trauma. Non-traumatic spontaneous SDH is rare. In a study by Koç et al., five patients aged 61-75 without a history of trauma were reported to have SDH based on brain CT results. Four of these patients had a history of hypertension (6). When examining cases of spontaneous SDH in the literature, patients presenting with symptoms such as headache, nausea, and vomiting without facilitating factors such as trauma and alcohol have been reported (9).

SDH is classified as acute, subacute, or chronic based on the time of onset (10). In our case, SDH was reported as acute-chronic based on the brain CT findings.

When consulting the Departments of Neurosurgery and Internal Medicine for our case, both departments declined to admit the patient under their care due to accompanying pathologies.

The patient was admitted to the Intensive Care Unit under the care of Neurosurgery based on the decision of the Emergency Medicine Specialist.

CONCLUSION

Acute pancreatitis (AP) can present as a significant clinical challenge with potentially fatal outcomes in cases presenting to emergency departments with symptoms of abdominal pain, nausea, and vomiting. Additionally, in patients with altered consciousness in the emergency department, it should not be forgotten that cerebrovascular events such as subdural hematoma (SDH) may play a role in the etiology, even in the absence of a history of trauma, alcohol, or anticoagulant medication use. In the chaotic environment of emergency departments, the possibility of a secondary life-threatening diagnosis in patients should be kept in mind.

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Image 1. Subdural hematoma on brain computed tomography

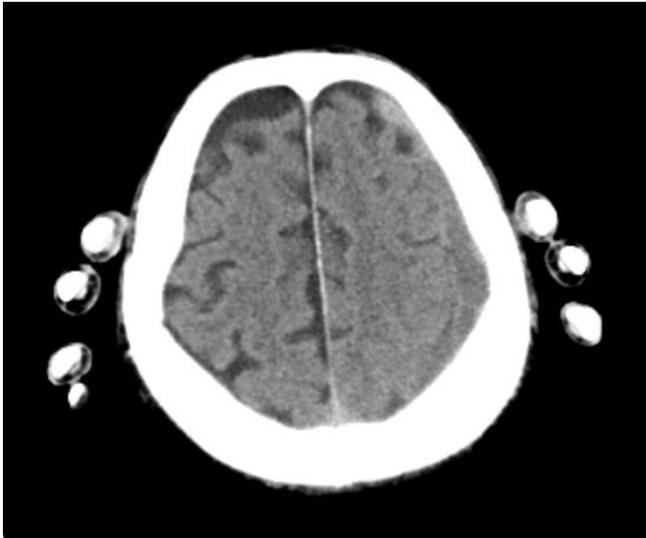


Image 2. The appearance of the pancreatic area on abdominal computed tomography.



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OBJECTIVE:Lung cancer is the most common cancer worldwide today. Pneumothorax or hydropneumothorax, as a presenting finding, is rare. Less than

0.5% of lung cancer cases have been reported to be complicated with pneumothorax and 1.4% cases of pneumothorax had underlying lung cancer

approximately.

CASE:A 75-year-old lung cancer patient presented to the emergency department with complaints of increasing dyspnea and cough in recent days. In order

patient's blood pressure, SpO₂ and respiratory rate per minute were 130/90 mmHg, 84% and 26. Examination of respiratory system revealed absent breath

sound in the right hemithorax. His X-ray was shown on Figure-1. Intercostal tube thoracostomy was done. Pleural fluid was aspirated. Dyspnea decreased.

The patient was admitted to the thoracic surgery clinic for follow-up.

RESULT:De-novo hydropneumothorax in lung cancer is rare complication but may occur.

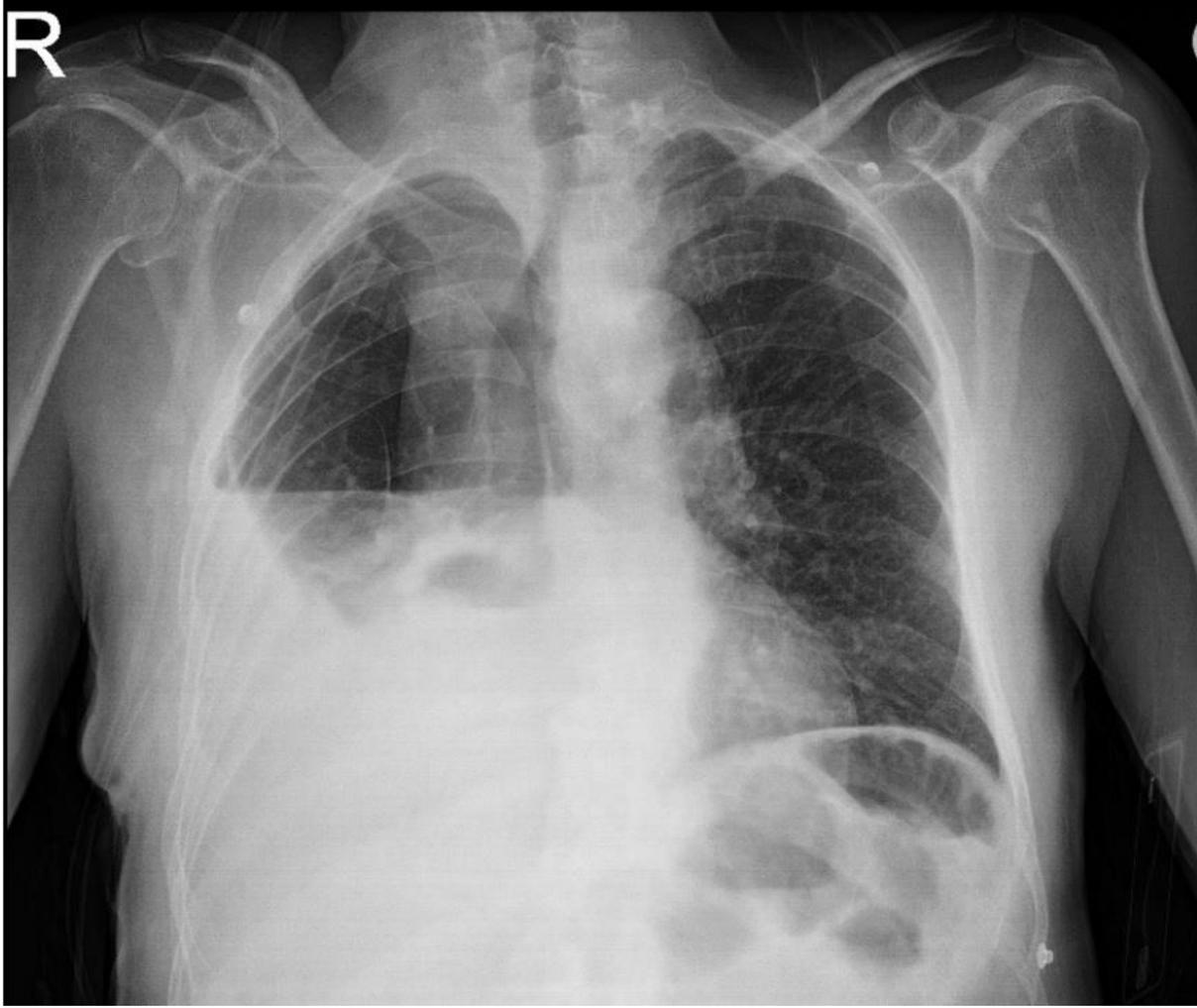


Figure-1 Right Sided Hydropneumothorax

It's just fly spray: mortal case of aluminum phosphide inhalation toxicity

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Introduction

Aluminium phosphide (ALP) is currently one of the most common causes of pesticide poisoning. Aluminium phosphide pellets react with water or moisture to form phosphine gas, which is the primary cause of toxicity. Phosphine gas is a potent mitochondrial toxin and inhibits the enzyme cytochrome c oxidase. Highly toxic ALP is used in the storage of cereals, animal feed and leaf tobacco, as a rodenticide and insecticide. ALP poisoning causes severe metabolic acidosis, acute respiratory distress syndrome, cardiogenic shock and multiple organ failure (1-3). While the majority of cases are caused by oral ingestion, in this case, we aimed to present the presentation and outcome of a case exposed to phosphide gas by inhalation, which is a rare form of exposure, to the Emergency Department (ED).

Case

A 22-year-old female patient with no known history of chronic diseases mixed the insecticide with the active ingredient ALP, which she had taken in powder form about 3 hours ago, with water. After spraying it on various parts of the house, she presented to the ED with complaints of nausea, vomiting, and shortness of breath. GCS was 14, tachycardic, tachypnoeic, and SpO₂ was 80. With oxygen support, SpO₂ was 92, blood pressure 90/60, and fever 36.7. Venous blood gas pH was 7.038, PCO₂ was 40, HCO₃ was 9, lactate was 11.3, and glucose was 256. The ECG showed diffuse ST segment depressions accompanied by sinus tachycardia. Cardiopulmonary arrest developed in the patient, who was intubated shortly afterwards due to rapidly decreasing SpO₂ values and deterioration of consciousness. Despite the interventions, the patient died.

Discussion

Although its use has been restricted in the USA and many European countries, aluminium phosphide is still a frequently used pesticide in developing countries (4). Aluminium phosphide is one of the toxicological conditions that should be kept in mind, causing serious consequences in our country, as seen in this case.

The factors affecting the clinical course of aluminium phosphide poisoning are the amount ingested, the method of ingestion, the purpose of ingestion (accidental or suicidal), and the time of presentation to the hospital. While the mortality rate is low in accidental ingestion, mortality rates increase up to 85% in suicidal ingestion, especially in young people and adults. The most commonly affected organs are the heart, lung, liver, gastrointestinal system, and kidneys. Patients present with neurological complications such as cardiovascular disability, acute respiratory distress syndrome (ARDS), pulmonary edema, central nervous system depression, and coma in the early period, while hepatotoxicity and nephrotoxicity occur mostly in the late period. Other rare complications include intravascular hemolysis, acute adrenal insufficiency, pancreatitis, hypo-hyperglycemia, hypo-hypermagnesaemia, methaemoglobinemia, microangiopathic hemolytic anemia, and diffuse intravascular coagulation disorder (5). Knowledge and recognition of the toxicological picture related to aluminium phosphide are extremely important in the approach to patients who may have a mortal course.

Conclusion

As seen in this case, the mortality rate for ALP poisoning is high. The lack of a specific antidote and the fact that the patient did not present with a specific complaint to the physician reveal the importance of taking careful anamnesis from the patients in this toxic picture with a mortal course. In the social sense, increasing the controls related to the sale of these products comes to mind as an important practice that can reduce the incidence of such incidents.

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Keywords : Aluminum phosphide toxicity, inhalation, phosphine

Difficult diagnoses in a tetraplegic patient: a case of hypopotassaemia after surgical intervention

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Introduction

There are many causes of muscle strength loss. Myopathies, fibromyalgia, cerebrovascular events, rhabdomyolysis, neuromuscular junction diseases, trauma, anaemia, malignancy, infectious disease, depression, multiple sclerosis, drugs, and physical limitations due to substance abuse are some of them. In such cases, it is important to evaluate the etiology and the underlying cause by deepening the anamnesis, conducting extensive physical examinations, and conducting laboratory and radiological examinations (1-3). With this case report, we wanted to remind you that electrolyte imbalance may also present with a similar clinical presentation and the importance of anamnesis in overcoming the difficulty of the diagnostic process.

Case

A 43-year-old male patient was admitted to the emergency department with the complaint of muscle weakness. The patient was conscious, oriented, and coherent. Vital values were normal. Neurological examination revealed that muscle strength in 4 extremities was 1/5 and deep tendon reflexes were decreased. No pathology was found on central imaging, and spinal imaging was normal. In the admission biochemistry parameters of the patient, K:1.7 was measured. The K value one day before was 4.5. When the anamnesis deepened, it was learned that a double J catheter was inserted by urology on the morning of the day of admission. The patient was hospitalised in the internal medicine intensive care unit for follow-up and treatment with a prediagnosis of tetraplegia due to acute hypopotassemia. After the electrolyte imbalance was corrected, the patient's clinical condition improved completely.

Discussion

Many patients are admitted to the emergency department due to loss of muscle strength and weakness. Hypokalemia is one of the etiological causes that come to mind in these patients. As

seen in this case, the picture of muscle weakness due to hypokalaemia may firstly suggest central pathologies. In most cases, the cause of this picture is potassium loss. This condition may develop due to some underlying diseases, medications used or, as seen in this case, it may also be seen in postoperative conditions (4,5).

Conclusion

In the literature, cases with similar neurological findings due to hypopotassemia developing in a short time after major surgical interventions have been reported. In this case, the development of such a picture after a smaller surgical intervention that does not require general anaesthesia should suggest that such patients may present to the emergency department with a loss of muscle strength. Finally, anamnesis and medical history should be carefully questioned in patients presenting to the emergency department with sudden loss of muscle strength. It should be kept in mind that electrolyte imbalance may lead to this picture, and the history of surgical intervention should not be overlooked

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Keywords: Complication, hypopotasemia, postoperative

A CASE OF YOUNG-ONSET MULTIPLE SCLEROSIS

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ABSTRACT

INTRODUCTION: Multiple sclerosis (MS) is a chronic autoimmune disease that affects the central nervous system, the cause of which is unknown. MS is most common in adults between the ages of 20 and 40. In this study, we aimed to present a patient diagnosed with young-onset MS.

CASE: A 19-year-old female patient was admitted to the emergency department with complaints of numbness, tingling and weakness on the right side of her body. Her complaints started five days ago with numbness and tingling in her right hand, and one day later, she was unable to write with her right hand and had weakness in her right leg. On physical examination, GCS was 15, she was conscious, oriented and cooperative, no fever or neck stiffness was detected. There was a sign of horizontal nystagmus. Distal muscle strength of the right upper extremity was evaluated as 3/5, and proximal muscle strength of the right lower extremity was evaluated as 4/5. Deep tendon reflexes were found to be increased in all four extremities. Babinski sign was observed positive on the right side. In diffusion MRI, two restricted-diffusion areas were observed in the lateral side of both hemispheres. The patient, whose results were considered to have a preliminary diagnosis of MS, was consulted to the neurology department. In the FLAIR-weighted MR images of the patient, hyperintense tumefactive MS plaques located perpendicular to the corpus callosum were detected in the bilateral pericallosal white matter. The patient was hospitalized in the neurology service.

CONCLUSION: MS should be considered in the differential diagnosis if a restricted-diffusion area is observed on diffusion MRI and if neurological examination bears significant findings.

KEYWORDS: Multiple sclerosis, emergency department, FLAIR-weighted MR images

INTRODUCTION:

Multiple sclerosis (MS) is a chronic autoimmune disease that affects the central nervous system (CNS), the cause of which is unknown (1). MS is most common in adults between the ages of 20 and 40, but it can also occur in children and rarely over the age of 50 (2-3). In this study, we aimed to present a patient diagnosed with young-onset MS.

CASE:

A 19-year-old female patient was admitted to the emergency department (ED) with complaints of numbness, tingling and weakness on the right side of her body. Her complaints started five days ago with numbness and tingling in her right hand, and 1 day later, she was unable to write with her right hand and had weakness in her right leg. The patient had a history of presyncope that occurred several times two years ago. She has never had complaints of weakness, numbness, or tingling in the extremities before, nor has she had frequent urination, urinary incontinence, vision loss, double vision, or dizziness. As vital signs; blood pressure was 120/70 mmHg, O₂ saturation was 96%, pulse: 83. On physical examination, GCS was 15, she was conscious, oriented and cooperative, no fever or neck stiffness was detected. Light reflexes were detected in both eyes, eye movements were free in all directions, and there was a sign of horizontal nystagmus. Distal muscle strength of the right upper extremity was evaluated as 3/5, and proximal muscle strength of the right lower extremity was evaluated as 4/5. Deep tendon reflexes were found to be increased in all four extremities. Babinski sign was observed positive on the right side. Hemogram and biochemistry blood parameters were within the normal reference range. In diffusion MRI, two restricted-diffusion areas were observed in the lateral side of both hemispheres. The patient, whose results were considered to have a preliminary diagnosis of MS, was consulted to the neurology department. In the FLAIR-weighted MR images of the patient, hyperintense tumefactive MS plaques located perpendicular to the corpus

callosum were detected in the bilateral pericallosal white matter, the largest of which was approximately 18x14 mm in size on the left (Figure 1). The patient was hospitalized in the neurology service for treatment.

Figure 1: Axial (A) and sagittal (B) FLAIR-weighted MR images reveal hyperintense plaques located perpendicular to the corpus callosum in bilateral pericallosal white matter (arrows).

DISCUSSION: MS is a chronic, autoimmune and demyelinating disease that affects the CNS

(4). MS in childhood appears to occur in 2-5% of all MS cases (5). MRI findings of MS are characteristically in the form of hyperintense, ovoid, perivenular demyelinating plaques on T2-weighted images and hypointense black holes on T1-weighted images in the periventricular, cortical/juxtacortical and infratentorial regions (6,7). The frequency of tumefactive demyelinating lesion (TDL) has been reported as 10% of childhood MS cases (8). TDL is also considered a variant of the inflammatory demyelinating diseases spectrum (9,10). TDL are lesions larger than 2 cm, where edema, mass effect and annular contrast enhancement are observed, can be single or multifocal, and are usually located in the centrum semiovale and sometimes in the medulla spinalis (11,12). TDL, which is a rare finding, is seen as restricted-diffusion area in MRI findings and a contrast-enhancing lesion in contrast-enhanced brain MRI, and the rarity of MS disease under the age of 30 makes our case valuable. Observing a restricted-diffusion on diffusion MR imaging should be considered in the differential diagnosis of MS if the examination and neurological examination bear significant findings.

CONCLUSION: It is extremely important to perform a careful neurological examination and take a detailed anamnesis of patients who come to the ED with symptoms suggestive of MS.

As a result, MS should be considered in the differential diagnosis if a diffusion-restricting area is observed on diffusion MRI and if neurological examination bears significant findings.

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Görünenin Arka Yüzü: Posterior Miyokardiyal İnfarktüs

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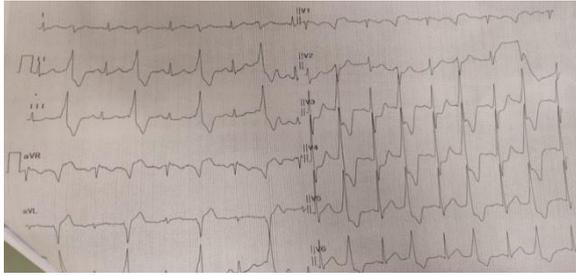
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Özet: Posterior miyokard enfarktüsünün (PMI) tanısını koymak her zaman kolay değildir. PMI, ST elevasyonlu miyokard enfarktüslerinin (STEMI) %10-15'ine eşlik etmekte, genellikle inferior veya lateral infarkt durumunda meydana gelmektedir. İzole PMI daha az yaygındır (%3-11)(1). İzole PMI bir acil koroner reperfüzyon endikasyonudur. Gerçek PMI yani "Elektrokardiyogramın (EKG) 'ölü açılı enfarktüsü'" sıklıkla yanlış değerlendirilir ve bu da yetersiz tedavinin nedeni olabilir(2). PMI'nin klinik görünümü diğer miyokard enfarktüslerinden farklı değildir, ancak ST-segment yükselmesi gibi 'geleneksel' elektrokardiyografik enfarktüs belirtilerinin yokluğu tanıda hatalara veya gecikmeye yol açabilmektedir. Gerçek PMI'nın tanınması zordur çünkü standart 12 derivasyonlu elektrokardiyogramın derivasyonları ilgili alanı doğrudan göstermez. Sadece prekordiyal derivasyonlardaki [V1-3 anteroseptal derivasyonlarında horizontal ST depresyonu, uzun, geniş R dalgaları (>30 ms), T dalgalarında dikleşme, V2'de dominant R dalgası (R/S oranı > 1)] değişikliklerle tanıdan şüphelenilebilir(1,3).AMI sonrası papiller kas rüptürü prevalansı %0,26'dır. Anterolateral kasın LAD ve sol sirkumfleks arterden ikili kanlanması ve posteromedial kasın yalnızca posterior inen arterden kanlanması nedeniyle posteromedial rüptür, anterolateral rüptürden daha yaygındır. Semptomlar tipik olarak akut dekompanse kalp yetmezliğinden kardiyojenik şoka kadar değişir.

Biz bu çalışmada STEMI olarak değerlendirilip klinik şüphe ile Posterior MI ve beraberinde papiller kas rüptürü tanısı konulan bir olgudan bahsetmek istedik.

Anahtar Kelimeler: Posterior miyokard infarktüsü; korda tendinea rüptürü; komplikasyon; kardiyojenik şok; case report.

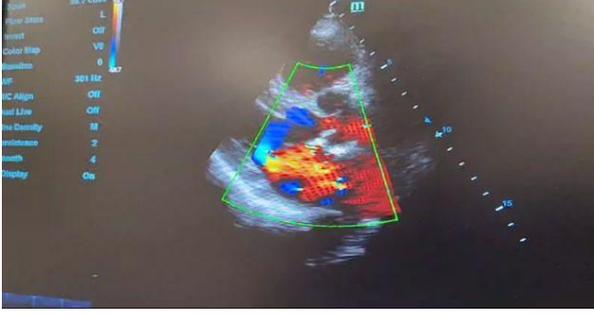
bölümü ile konsulte edilmiş ve hasta acil MVR operasyonuna alınmıştır. Hasta postop 10. gününde hastaneden taburcu olmuştur.



Resim 1. Başvuru sırasında çekilen 12 derivasyonlu EKG



Resim 2. Posterior EKG



Resim 3. Paraseternal uzun aksta chorda tendinea rüptürü



Resim 4. Koroner Anjiografi görüntüsü

Tartışma: PMI'nin akut MI'nın %15 ila 21'ini temsil ettiği ve sıklıkla inferior ve/veya lateral MI'nin eşlik ettiği rapor edilmiştir(3,4). Vakamızda da lateral miyokard infaktüsü eşlik etmektedir. Yalnızca V7 ila V9 derivasyonlarda ST segment yükselmesi olan 33 ardışık hastadan oluşan bir grupta , hastaların %22'sinde orta ila şiddetli mitral yetersizliği vardı(5).15 derivasyonun tamamının kullanılması, standart 12 derivasyonlu EKG'ye göre sirkumfleks koroner ile ilişkili yaralanma modelinin daha fazla tespit edilmesini önemli ölçüde artırır.(6)Vakamızın anjio sonucunda da Cx arter %95 tromboze çıkmıştır. Göğüs ağrısı ile başvuran hastalarda EKG'de anteroseptal derivasyonlarda (V1-3) horizontal ST çökmesi klinisyeni PSTEMI konusunda uyarmalıdır. PSTEMI'de reperfüzyon tedavisine erken başlamak için EKG'deki bulgularla birlikte klinik belirtilere dikkat edilmelidir. Akut miyokard infaktüsü(AMI)'de mitral regürjitasyon (MR) gelişiminin 2 ana mekanizması vardır; birincisi ani gelişen papiller kas rüptürü(PKR), ikincisi ise iskemiye bağlı papiller kas duvarı

fonksiyon bozukluğudur. İskemik MR, PKR'den çok daha yaygındır. Perkütan Koroner Girişim (PKG) döneminde AMI sonrası PKR prevalansı %0,26'dır(7). Anterolateral kasın LAD ve sol sirkumfleks arterden ikili kanlanması ve posteromedial kasın yalnızca posterior inen arterden kanlanması nedeniyle posteromedial rüptür, anterolateral rüptürden daha yaygındır. Genellikle AMI'den 2 ila 7 gün sonra ortaya çıkar ve semptomlar tipik olarak akut dekompanse kalp yetmezliğinden kardiyojenik şoka kadar değişir, bu da hipotansiyona ve pulmoner ödem nedeniyle akut solunum yetmezliğine yol açar (8). Transtorasik ekokardiyogram (TTE) %65 ila %85 hassasiyetle tercih edilen ilk görüntüleme yöntemidir; ancak transözofageal ekokardiyogramın (TEE) tanısal doğruluğu %95 ila %100 arasında daha yüksek olduğundan TEE gerekli olabilir. PMR için mitral kapak ameliyatı çok yüksek bir mortalite taşır; ancak son yıllarda cerrahi tekniklerdeki ilerlemeler ve buna eşlik eden revaskülarizasyon cerrahisi nedeniyle mortalite azalmıştır (9,10). Russo ve ark. tarafından yapılan bir çalışmada, PKR ameliyatından sağ kurtulan PKR'li hastaların uzun dönem sonuçları, PKR olmayan hastalarla benzer olmuştur. (11) İskemik MR, PKR'den çok daha yaygındır ve kısa vadeli ve uzun vadeli prognostik öneme sahiptir. AMI sonrası MR'lı hastalar MR'sız hastalarla karşılaştırıldığında daha kötü prognoza sahiptir. İskemi, apikal ve posterior papiller kasların yer değiştirmesine ve duvar hareket anormalliklerine neden olur. Erken revaskülarizasyonun MR'ı azaltmada etkili olduğu ve sağkalımı arttırdığı gösterilmiştir(12).Bizim hastamızda da posterior kas rüptürü gelişmiştir ve erken cerrahi girişim ile hasta sağkalımı sağlanmıştır.

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GELİNCİK OTU ZEHİRLENMESİ: OLGU SERİSİ

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ÖZET: Gelincik (*Papaver rhoeas*) Gelincikgiller familyasından, geniş yayılma alanına sahip tek yıllık bitki türüdür. Halk arasında gıda ve tıbbi amaçlı kullanılır. Bitkinin içerdiği alkaloidlerden dolayı toksikasyon durumlarında hastalar bulantı, kusma, konfüzyon, nöbet, miyozis, aritmi ve morfin intoksikasyonuna benzer klinik bulgularla acile gelebilir. Biz bu olgu serisinde gelincik otunu gıda amaçlı tüketen ve sonrasında farklı semptomlarla acil servise başvuran ve Konya Şehir Hastanesi Toksikoloji Yoğun Bakıma yatırışı yapılan 4 olguyu sunmayı amaçladık. Olguların acile başvuru şikayetleri bulantı, kusma, halsizlik, nöbet idi. Olguların takiplerinde ek şikayet, anormal fizik muayene ve laboratuvar bulgusuna rastlanmadı ve kendi rızası ile taburcu edilen bir hasta dışında şifa ile taburcu edildiler.

GİRİŞ: Gelincik (*Papaver rhoeas*) ismini verdiği Gelincikgiller familyasından, geniş yayılma alanına sahip tek yıllık bitki türüdür. Dalların ucunda bulunan çiçekler koyu kırmızıdır, dip kısmı siyah lekeli veya lekesizdir [1] (Resim 1,2). Halk arasında gıda ve tıbbi amaçlı kullanılır. Yeşil kısımlarından, tohumlarından ve kırmızı taç yapraklarından faydalanılır. Yeşil yaprakları kavru olarak veya salata olarak tüketilir. Taç yapraklarından ise geleneksel gelincik şerbeti yapılır[2,3]. Afyon alkaloidlerinin benzilzokinolin grubunda yer alır ve rhoeadin alkaloidi içerir[4]. Bulantı, kusma, konfüzyon, nöbet, miyozis, aritmi ve morfin intoksikasyonuna benzer bulgular gibi klinik durumlara neden olabilir [5]. Literatürde gelincik intoksikasyonu ile ilgili çok az veri bulunmaktadır. Klinik tablolar Papaver rhoea'nın morfin benzeri etkilerinden kaynaklanır. Fitokimyasal araştırmalar dopaminerjik antagonistleri ve nöroleptik etkileri olan rhoeadin, allotropin ve coptisine gibi alkaloidlerin varlığını göstermiştir[6].

ANAHTAR KELİMELER: Gelincik otu, intoksikasyon, alkaloid



Resim 1



Resim 2

OLGU 1:

Bilinen hipertansiyon öyküsü olan 40 yaş kadın hasta öğle saatlerinde dışardan topladığı gelincik otunu yemiş. Yedikten kısa bir süre sonra evde nöbet geçirir gibi kasılmaları olmuş, ek olarak halsizlik şikayeti mevcut. Hasta dış merkezden 112 aracılığıyla acile getirildi. Gelişinde genel durumu iyi, GKS:15, bilinç açık, oryante, koopere. Vitalleri stabil: tansiyon: 120/79 mmHg, So2:98 nabız:75 atım/dk. Dış merkezde yapılan santral görüntülemeleri normal olarak değerlendirildi. Hastanın laboratuvar bulguları: Hgb:13.8 g/dl, Plt :282.10³ (μl), Troponin:8 ng/L, Inr:1.01 INR, Kre:0.7 mg/dl, Glukoz:170 mg/dl, AST:27 U/L, ALT:21 U/L, Na:139 mmol/L, K:4.1 mmol/L, CK:349 U/L, Kan gazı PH:7.45, PaO2:69 mmHg, PaCO2: 41 mmHg, laktat:1 mmol/L. Hastaya mide lavajı aktif kömür yapıldı. Hasta takip tedavi amaçlı toksikoloji yoğun bakıma yatırıldı. Hastanın takiplerinde ek şikayet, anormal fizik muayene ve laboratuvar bulgusu bulguya rastlanmadı. Hasta yoğun bakım yatışının 2. gününde kendi rızasıyla ayrıldı.

OLGU 2:

Bilinen ek hastalık öyküsü olmayan 70 yaş kadın hasta dün ve bugün gelincik otu yemiş. Halsizlik, titreme şikayeti olunca dış merkeze başvurmuş. Hasta tarafımıza dış merkezden 112 aracılığıyla getirildi. Gelişinde GKS:15, bilinç açık, oryante koopere. Vitaller: Tansiyon: 154/79 mmHg so2: 95 nabız:77 atım/dk. Hastanın laboratuar bulguları: Hgb:12.9 g/dl, Plt:203.10³ (µl), Troponin:12 ng/L,

Inr:1 INR, Kre:0.89 mg/dl, Glukoz:105 mg/dl, AST:36 U/L ,ALT:26 U/L, Na:140 mmol/L, K:3.9 mmol/L, CK:391 U/L, Kan gazı PH:7.48, PaO2:29 mmHg PaCO2: 31 mmHg, laktat:4.6 mmol/L.

Hastaya mide lavajı aktif kömür yapıldı. İzotonik mai takıldı. Bulantı şikayeti olan hastaya semptomatik esomeprazol ve ondansetron tedavisi verildi.Hasta takip tedavi amaçlı toksikoloji yoğun bakıma yatırıldı.Ek şikayet, anormal fizik muayene ve laboratuar bulgusu olmayan hasta 2. gün taburcu edildi.

OLGU 3:

Bilinen hipertansiyon öyküsü olan 71 yaş kadın hasta akşam saatlerinde gelincik otu salatası yemiş. Yedikten yarım saat sonra bulantı, baş dönmesi şikayetleri başlamış. Evde ölçülen tansiyon değerleri yüksek gelinde ayaktan acile başvurdu.

Gelişinde GKS:15, bilinci açık, oryante koopere, Vitaller: tansiyon: 143/ 78 mmHg, So2: 95 nabız:110 atım/dk. ekg:sinüs taşikardisi.Hastanın aktif baş dönmesi şikayeti devam ediyor.

Hastanın laboratuar bulguları: Hgb:12,8 g/dl, Plt:206. 10³ (µl), Troponin:12 ng/L,

Inr:0.95 INR, Kre:0.64 mg/dl, Glukoz:140 mg/dl, AST:21 U/L,ALT:14 U/L, Na:140 mmol/L , K:4 mmol/L, CK:44 U/L , Kan gazı PH:7.43, PaO2:48 mmHg, PaCO2:38 mmHg , laktat:4,6 mmol/L.

Hastanın baş dönmesi etyolojisine yönelik yapılan BBT, Diff MRG görüntülemelerinde patolojik bulguya rastlanmadı. Hasta takip tedavi amaçlı toksikoloji yoğun bakıma yatırıldı.Hastanın yoğun bakım takiplerinde şikayetleri geriledi. Ek şikayet, anormal fizik muayene ve laboratuar bulgusu olmayan hasta 2. gün taburcu edildi.

OLGU 4:

Bilinen diabet hastalığı olan 73 yaş kadın hasta bahçeden topladığı gelincik otundan yemiş. Yedikten yaklaşık 3 saat sonra bulantı kusması başlamış.

Gelişinde GKS:15, bilinci açık, oryante koopere, tansiyon:127/76 sat:99 nabız:78 ekg:normal sinüs ritmi.Nörolojik muayene normal.

Hastanın laboratuvar bulguları: Hgb:13,5 g/dl, Plt:285.10³ (µl), Troponin:7 ng/L, Inr:0.89 INR, Kre:0.55 mg/dl, Glukoz:141 mg/dl, AST:18 U/L, ALT:11 U/L, Na:139 mmol/L, K:4.1 mmol/L, CK:85 U/L, Kan gazı PH:7.41, PaO₂:34 mmHg, PaCO₂:45 mmHg, laktat:1,2 mmol/L.

Hastanın yapılan BBT, Diff MRG görüntülemelerinde patolojik bulguya rastlanmadı. Hasta takip tedavi amaçlı toksikoloji yoğun bakıma yatırıldı. Ek şikayet, anormal fizik muayene ve laboratuvar bulgusu olmayan hasta 3. gün taburcu edildi.

TARTIŞMA: Dünyada binlerce çeşit bitki türü vardır ancak bunların çok az bir kısmı zehirlidir. Bitkilerle zehirlenmeler çocuklarda sık görülür ancak ciddi boyutlardaki toksisite erişkinlerde daha siktir. Yapılan araştırmalarda >65 yaş kadınların %48'i , allerjik hastaların %30'u bitkisel ürün kullandığı anlaşılmaktadır. Bu bitkilerin ilaç olarak tercih edilmelerinin en büyük sebebi doğal olduğuna olan inançtır[7]. Gelincik otu bitkisi de halk tarafından yaygın olarak gıda ve tıbbi amaçlı kullanılmaktadır. Gelincik otu ishal, öksürük ve uyku bozukluklarının tedavisinde ve analjezi-sedasyon, opioid yoksunluğu semptomlarını azaltmak amacıyla kullanılır [4]. Bağırsak ve idrar iltihabı, bronşit, zatürre ve döküntülü hastalık tedavisinde kullanıldığı bildirilmiştir[8]. Ancak olgularımızdan hiçbiri gelincik otunu tedavi amaçlı kullanmamış , hepsi bitkiyi besin amaçlı kullanmıştır. Koçak ve ark. Papaver rhoea'yı yedikten sonra gelişen merkezi sinir sistemi depresyonu bulguları bildirmişlerdir[5]. Bahsedilen olgu sunumu, olgumuzda saptanan nöbet, miyozis, konfüzyon, MSS depresyonu gibi bulguları desteklemektedir.

SONUÇ:

Gelincik otu zehirlenmeleri morfin zehirlenmesine, CNS ve kardiovasküler sisteme ait semptomlarla başvurabilir. Benzer şikayetlerle başvuran hastalarda yabancı ot zehirlenmeleri

akılda tutulmalıdır. Olgularda mortalite ya da sekel nörolojik bulgu görülmemiştir. Gelincik otu ve benzeri bitkilerin bilinçsizce tüketilmemesi için eğitim ve bilgilendirme faaliyetlerine önem verilmelidir.

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Association of Serum Lactate Levels Measured in the Emergency Department with 30-Day Mortality in Elderly Patients with Unilateral Hip Fracture

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Abstract

Background/aim: Hip fractures are frequent injuries in elderly patients and have a high mortality rate. Recent studies have shown that lactate is a valuable prognostic indicator for evaluating the severity of trauma and predicting the prognosis of patients with multiple trauma. However, there is a limited number of studies on this subject, particularly focusing on the geriatric patient group. This study aimed to assess the association between serum lactate levels and 30-day mortality in elderly trauma patients with unilateral hip fractures and to examine its prognostic value on the clinical outcomes of these patients.

Material and Methods: This is a retrospective and single-center study. The study included patients who experienced low-energy trauma (a fall from a level at or below body height), were able to walk independently or with the aid of a walker or cane before the injury, were 65 years of age or older, had their serum lactate levels measured during emergency department evaluation, and underwent surgery. The study excluded patients who were under 65 years of age, unable to care for themselves before the injury, had additional injuries other than hip fracture, were in the high-risk group (American Society of Anesthesiologists (ASA) grade V), had high-energy trauma, and had not undergone surgery. The patients' fracture diagnoses and types were determined through pelvis/hip radiography and/or pelvis computed tomography. The fracture types were classified as femoral neck fracture, pertrochanteric fracture, and subtrochanteric fracture (7). The study included patients who had venous blood samples taken within the first hour of admission to the emergency department.

Results: 330 patients with complete data were included in the study. The majority of the patients were female (64.5%) and the median age was 81 years (IQR 25-75, 75-87). The median lactate level was 1.26 mmol/L (IQR 25-75, 0.9-1.76). The most common type of fracture was pertrochanteric (58.5%). Postoperative complications occurred in 30.9% of the patients. The mortality rate within 30 days was 10.3%.

Table 2 shows a comparison between patients who died within 30 days and those who did not. The study found that advanced age, a history of hypertension, high lactate levels, and low albumin levels were significant factors in mortality ($p < 0.05$ for all values). Additionally, postoperative complications and prolonged hospital stays were associated with mortality ($p < 0.05$ for all values).

The ROC analysis determined the lactate level cut-off value between deceased and living patient groups with an AUC value of 0.712 (95% CI; 0.615-0.810) (Figure 1). A lactate level of 2 mmol/L was found to be the best cut-off value to distinguish between deceased and alive patients, and the sensitivity and specificity of this value were 41% and 88%, respectively. Patients who developed postoperative complications had a lactate level of 1.71 mmol (1.2-2.5), while those who did not had a level of 1.1 mmol (0.8-1.4). This difference was statistically significant ($p < 0.001$). The ROC analysis was performed to determine the lactate level threshold between patient groups with and without postoperative complications. The AUC value was 0.744 (95% CI; 0.684-0.804) (Figure 2). When the best cut-off value of lactate for predicting the development of postoperative complications was taken as 2.1 mmol/L, the sensitivity and specificity values for this value were 31% and 96%, respectively.

Multivariate logistic regression analysis was performed to examine the effects of the variables analyzed in Table 2 and lactate, together with other variables, on mortality. In the multivariate model, hypertension, dementia, lactate, albumin levels with p value of 0.2 or less, age, and sex were included in Table 2. After the Hosmer-Lemeshow test showed that the model was fit, high lactate, low albumin and male sex were found to be associated with mortality ($p = 0.043$, $p = 0.001$, $p = 0.003$, respectively) (Table 3).

Conclusion: Identifying risk factors for mortality in geriatric patients with hip fractures is important. Our study showed that in elderly trauma patients with isolated hip fracture, a serum lactate level above 2 mmol/L was associated with 30-day mortality and risk of postoperative complications. Male gender and low albumin, particularly increased lactate, are independent predictors of short-term mortality in geriatric patients with isolated hip fractures.

Keywords: Hip fracture, emergency department, elderly, lactate concentration, 30-day mortality

Table 1. Demographics and some laboratory findings of the patients

Age, Median, (IQR ¹ 25-75)	81 (75-87)
Gender (female) n (%)	213 (64.5)
Comorbidities n (%)	
Hypertension	276 (83.6)
Diabetes Mellitus	130 (39.4)
CAD ² / Heart Failure	120 (36.4)
COPD ³	76 (23)
Dementia	60 (18.2)
Atrial Fibrillation	48 (14.5)
Chronic Renal disease	34 (10.3)
Anticoagulation drug use	32 (9.7)
<i>Median, (IQR 25-75)</i>	
Lactate (mmol/L)	1.26 (0.9-1.76)
pH	7.41 (7.36-7.43)
Hemoglobin (g/dL)	12.2(10.8-13.6)
Glucose (mg/dL)	135 (113-168.5)
Urea (mg/dL)	45 (36-58.2)
Creatinine (mg/dL)	1 (0.8-1.22)
Albumin (g/dL)	36.2 (33.2-38.6)
Type of fracture n (%)	
Neck	122 (37)
Perthrochanteric	193 (58.5)
Subthrochanteric	15 (4.5)

Anesthesia, n (%)	
ASA PS ⁴ -2	66 (20)
ASA PS-3	237 (71.8)
ASA PS-4	27 (8.2)
Postoperative complications, n (%)	102 (30.9)
Fever	64 (19.4)
Chest infection	41 (12.4)
Acute renal failure	32 (9.7)
Cardiac failure	29 (8.8)
Sepsis	25 (7.6)
Arrhythmia	23 (7)
Urinary infection	20 (6.1)
Myocardial infarction	12 (3.6)
Wound infection	10 (3)
Deep venous thrombosis/Pulmonary embolism	9 (2.7)
Ischemic stroke	2 (0.6)
Length of hospital stay, day, <i>Median, (IQR 25-75)</i>	5 (3-6.2)
30-days mortality, n (%)	34 (10.3)

IQR¹: Inter Quartile Range, CAD²: Coronary artery disease, COPD³: Chronic obstructive pulmonary disease, ASA PS⁴: American Society of Anesthesiologists physical status classification

Table 2. Patients characteristics according to 30 days mortality

	<u>Survivor</u>	<u>Non-survivor</u>	<u>P value</u>
Age, Median, (IQR ¹ 25-75)	81 (74-86)	84.5(78-88)	0.023
Gender (female) n (%)	196 (66.2)	17 (50)	0.061
Comorbidities n (%)			
Hypertension	243 (82.1)	33 (97.1)	0.025
Diabetes Mellitus	120 (40.5)	10 (29.4)	0.208
CAD ² / Heart Failure	106 (35.8)	14 (41.2)	0.538
COPD ³	69 (23.3)	7 (20.6)	0.721
Dementia	50 (16.9)	10 (29.4)	0.073
Atrial Fibrillation	41 (13.9)	7 (20.6)	0.304
Chronic Renal disease	32 (10.8)	2 (5.9)	0.553
Anticoagulation drug use	27 (9.1)	5 (14.7)	0.352
Median, (IQR 25-75)			
Lactate (mmol/L)	1.23 (0.9-1.69)	1.77 (1.36-2.62)	<0.001
pH	7.41 (7.36-7.43)	7.41 (7.34-7.43)	0.508
Hemoglobin (g/dL)	12.2 (10.8-13.6)	12.4 (10.8-14)	0.611
Glucose (mg/dL)	135 (114-167.7)	150 (110-175.7)	0.660
Urea (mg/dL)	45 (36-59)	42 (33-57.2)	0.664
Creatin (mg/dL)	1 (0.8-1.22)	0.97 (0.81-1.23)	0.885
Albumin (g/dL)	36.5 (33.9-38.9)	33.6 (31-36.4)	<0.001
Postoperative complications n (%)	79 (27.6)	23 (69.7)	<0.001

Type of fracture n (%)			
Neck	111 (37.5)	11 (32.4)	
Interthrochanteric	172 (58.1)	21 (61.8)	0.804
Subthrochanteric	13 (4.4)	2 (5.9)	
Anesthesia, n (%)			
ASA PS ⁴ -2	64 (22.4)	3 (9.1)	
ASA PS-3	202 (70.6)	24 (72.7)	0.035
ASA PS-4	20 (7)	6 (18.2)	
Median, (IQR 25-75)			
Length of hospital stay	5 (3-6)	8 (4-15.5)	0.001
Length of ICU ⁵ stay	1 (1-2)	5 (1-12)	<0.001

IQR¹: Inter Quartile Range, CAD²: Coronary artery disease, COPD³: Chronic obstructive pulmonary disease, ASA PS⁴: American Society of Anesthesiologists physical status classification, ICU⁵: Intensive care unit

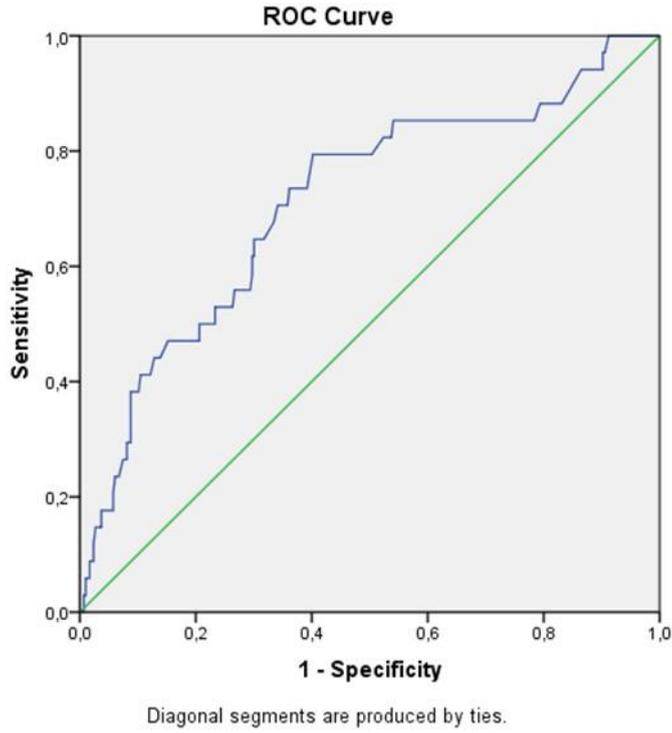


Figure 2. ROC analysis to determine lactate threshold between deceased and living patient groups

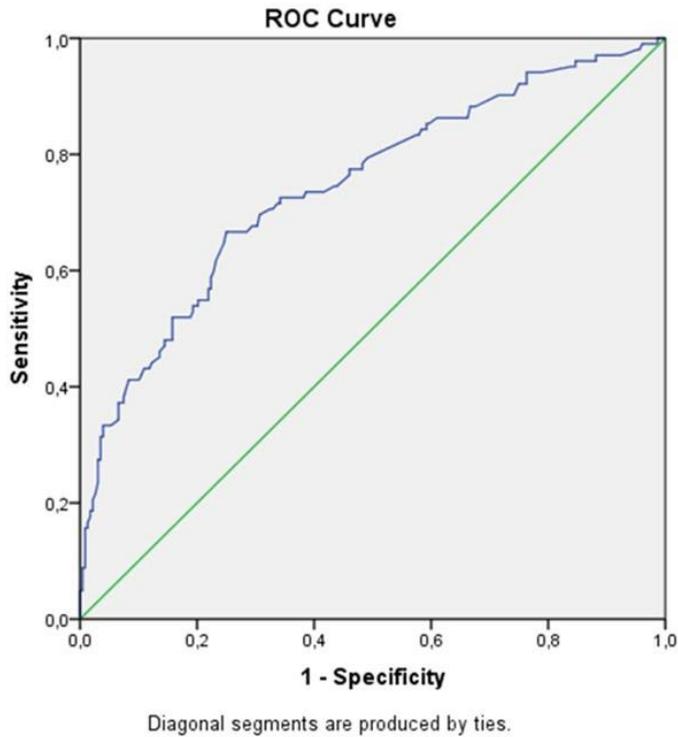


Figure 3. ROC analysis to determine lactate threshold between patient groups with and without postoperative complications

Table 3. Multivariate regression model to predict mortality

	Wald	P value	Hazard Ratio	(95% CIs)
Age	1.579	0.209	1.035	0.981-1.092
Gender	4.084	0.043	2.217	1.024 - 4.796
Hypertension	2.576	0.108	5.347	0.690-41.420
Dementia	2.356	0.125	2.003	0.825-4.863
Lactate	11.934	<0.001	1.829	1.299-2.577
Albumin	8.710	0.003	0.874	0.799-0.956

A Retrospective Study of CT Scan Utilization in the Emergency Department for Patients Presenting with Seizures

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Background/Aim: About 10% of people have at least one seizure in their lifetime. Seizures can have different etiologies, including intracerebral hemorrhage, malignancy, trauma, and central nervous system infections, and there may be no clear diagnostic history. In recent years, computed tomography (CT) of the brain has become a widely used diagnostic tool in the emergency evaluation of patients with seizures. The indications for neuroimaging in emergency department (ED) patients presenting with seizures have not been clearly defined. In this study, we aimed to investigate the findings that may influence the emergency management of patients with seizures undergoing brain computed tomography (CT) and the factors that influence these findings.

Material and Methods: This is a retrospective, single-center study. Patients presenting to the ED with seizures—both patients with diagnosed epilepsy and patients with first-time seizures—who underwent brain CT were included. Demographic information and indications for CT scans were recorded. According to the CT findings, patients were classified as having or not having significant pathology, and comparisons were made. Intracranial mass, intraparenchymal, subdural, and subarachnoid hemorrhage, fracture, and cerebral edema were considered significant pathologies. Other changes on the CT scans; encephalomalacia, arachnoid cyst, calcification, nasal fracture were not considered as significant pathologies. Patients were divided into two groups: those who underwent acute management changes related to the CT scans and those who did not. A deviation from the emergency patient care plan based on the CT findings was defined as an acute management change due to the emergency CT scans. These changes were identified as neurosurgical intervention, special medical managements (such as subarachnoid hemorrhage or treatment of central nervous system infection), or hospitalization resulting from the CT findings.

Results: During the study period, we evaluated 2721 patients who were presented with seizures. Of these patients, 438 underwent a CT scan and 404 patients with complete data were included in the study. 46.3% of the patients were female and the median age was 37 years (IQR 25-75,

25-54). 18.8% of the patients experienced their first seizure. 69.3% of the patients were regularly taking antiepileptic drugs. Demographic data, treatment, and outcomes of the patients are presented in Table 1.

The CT scans were normal in 67.6% of patients, and 5.4% had a significant pathology. The CT scan was performed in 40.6% of patients because of head trauma. Three patients with head trauma were found to have significant pathologies. These pathologies included subdural hemorrhage, maxillary sinus fracture, and orbital base fracture. The CT findings of the patients are shown in Table 2.

The comparison of patients with and without significant pathology on the CT is shown in Table 3. Patients with significant pathologies on the CT had a history of malignancy in 63.6% of cases, which was statistically significant ($p<0.001$). Conversely, patients without a significant pathology had a history of head trauma in 42.1% of cases with statistical significance ($p<0.05$). Significant pathology was found on CT in 6.6% of patients with first-time seizures. In 5.2% of the patients with a known diagnosis of epilepsy, significant pathology was found on the CT scan. Patients with significant pathologies on the CT scan had higher rates of hospitalization, a prolonged postictal state, and were treated with both first- and second-line antiepileptic medications in the ED ($p<0.05$ for all values).

A logistic regression analysis was performed to determine the impact of the parameters listed in Table 3 on the finding of significant pathologies on the CT scan (Table 4). In this regression analysis, age (UOR: 1.04, 1.017-1.063), hypertension (UOR: 2.53, 1.046-6.133), history of malignancy (UOR: 53.95, 19.04-152.91), prolonged postictal state (UOR: 4.03, 1.645-9.873), need for first-line (UOR: 3.10, 1.305-7.401) and second-line treatments in the emergency department (UOR: 4.74, 1.932-11.63) were found to be predictors for the detection of significant pathologies on the CT scan.

Conclusion: In this study, we examined how often patients with seizure symptoms who visit the ED receive neuroimaging, evaluated the influence of such imaging on emergency care, and identified factors influencing imaging outcomes. Our findings revealed that 94.6% of brain CTs performed yielded no significant pathology influencing emergency management. In addition, the presence of hypertension, malignancy, and prolonged postictal state has shown to predict the detection of significant pathologies on the CT scans. The rates of first and second-line

antiepileptic treatments in the ED and hospitalization were statistically higher in patients with significant pathologies. The results of our study emphasize that unnecessary neuroimaging is performed at a high rate in patients presenting to the ED with seizures, but significant findings, albeit at a low rate, cannot be ignored in patient diagnosis and management. These findings suggest that the indications for neuroimaging in the ED should be reevaluated and resources used more efficiently. In conclusion, this study shows that the influence of neuroimaging on the emergency management of patients with both diagnosed epilepsy and first-time seizures presenting to the ED with seizure is limited. Hypertension, history of malignancy, and prolonged postictal status were found to increase the likelihood of detecting significant pathologies on the CT scans. In addition, the clinical decision-making rules need to be tailored and developed specifically for the evaluation of head trauma in the patients with seizures to protect the patients from unnecessary radiation and reduce costs. We believe that this study will shed light on further prospective studies to reconsider the indications for the emergency neuroimaging.

Key words: CT scan, emergency department, neuroimaging, seizures

Table 1. Demographic and clinical characteristics of the patients

Demographic and clinical characteristics	All patients (n=404)
Gender n(%)	
Female	187 (46.3%)
Age median (IQR¹ 25-75)	37 (25-54)
Comorbidity n(%)	
Chronic hypertension	91 (22.5%)
Diabetes mellitus	33 (8.2%)
Cerebrovascular disease	32 (7.9%)
History of malignancy	26 (6.4%)
Coronary artery disease	14 (3.5%)
Other	12 (3%)
Known diagnosis of epilepsy	328 (81.2%)
Epilepsy medication users	280 (69.3%)
GCS² median (IQR²⁵⁻⁷⁵)	15 (10-14)

Prolonged postictal state	65 (16.1%)
Intubation	34 (8.4%)
Patient outcome n(%)	
Discharged	318 (78.7%)
Hospitalization	86 (21.3%)

IQR¹: Inter Quartile Range, GCS²: Glasgow coma scale

Table 2. The CT scan findings of the patients

The CT¹ scan findings	All patients n(%)
Normal	273 (67.6%)
Encephalomalacia	96 (23.8%)
Mass	14 (3.5%)
Arachnoid cyst	8 (2%)
Intraparenchymal hemorrhage	4 (1%)
Calcification	3 (0.7%)
Fracture	2 (0.5%)
Nasal fracture	2 (0.5%)
Brain edema	1(0.2%)
Subdural hemorrhage	1 (0.2%)
Significant pathologies on the CT scans	22 (5.4%)
Indication for the CT scan	
Head trauma	164 (40.6%)
First-time seizure	76 (18.8%)
Prolonged postictal state	65 (16.1%)
Change in seizure pattern	52 (10.9%)
Status epilepticus	43 (10.6%)
Severe headache	15 (3.7%)
Active non-brain cancer	11 (2.7%)
Focal neurological findings	5 (1.2%)
Use of anticoagulants	2 (0.5%)

CT¹: Computed Tomography

Table 3. Comparison of the patients with and without significant pathologies on the CT scans

	Significant pathologies detected on the CT scans (n=22)	No significant pathology detected on the CT scans (n=382)	p
Age median (IQR¹ 25-75%)	55.5 (42.5-66.7)	36 (24-53)	<0.001
Gender			
Female	12 (54.5%)	175 (45.8%)	0.424
Comorbidity			
Chronic hypertension	9 (40.9%)	82 (21.5%)	0.061
Diabetes mellitus	2 (9.1%)	31 (8.1%)	0.698
Coronary artery disease	0 (0%)	14 (3.7%)	1.000
Cerebrovascular disease	2 (9.1%)	30 (7.9%)	0.690
History of malignancy	14 (63.6%)	12 (3.1%)	<0.001
Known diagnosis of epilepsy	17 (77.3%)	311 (81.4%)	0.581
Epilepsy medication users	17 (77.3%)	263 (68.8%)	0.405
Indication for CT²			
Head trauma	3 (13.6%)	161 (42.1%)	0.008
First-time seizure	5 (22.7%)	71 (18.6%)	0.581
Prolonged postictal state	9 (40.9%)	56 (14.7%)	0.002
Change in seizure pattern	2 (9.1%)	50 (13.2%)	0.753
Status epilepticus	2 (9.1%)	41 (10.7%)	1.000
Severe headache	1 (4.5%)	14 (3.7%)	0.575
Active non-brain cancer	7 (31.8%)	4 (1%)	<0.001
Focal neurological findings	0 (0%)	5 (1.3%)	1.000
Use of anticoagulants	1 (4.5%)	1 (0.3%)	0.116
First-line treatments	11 (50%)	93 (24.3%)	0.007
Second-line treatments	14 (63.6%)	103 (27%)	<0.001
Hospitalization	11 (50%)	75 (19.6%)	0.002

IQR¹: Inter Quartile Range, CT²: Computed Tomography

Table 4. Demographic and clinical characteristics of the patients according to the presence of the significant findings on the CT scans

	UOR ¹	Confidence interval	p
Age median (IQR² 25-75%)	1.04	1.017-1.063	<0.001
Gender	0.705	0.297-1.67	0.426
Comorbidity			
Chronic hypertension	2.53	1.046-6.133	0.039
Diabetes mellitus	1.13	0.253-5.070	0.871
Coronary artery disease	N/A	N/A	
Cerebrovascular disease	1.317	0.262-5.260	0.835
History of malignancy	53.95	19.04-152.91	<0.001
Known diagnosis of epilepsy	0.776	0.277-2.174	0.630
Epilepsy medication users	1.538	0.555-4.268	0.5408
Indication for CT³			
Head trauma	0.217	0.063-0.745	0.015
First-time seizure	0.776	0.277-2.174	0.630
Prolonged postictal state	4.03	1.645-9.873	0.002
Change in seizure pattern	0.664	0.151-2.928	0.589
Status epilepticus	0.832	0.188-3.687	0.808
Severe headache	1.252	0.157-9.978	0.832
Active non-brain cancer	44.1	11.63-167.15	<0.001
Focal neurological findings	0.000	0-N/A	0.999
Use of anticoagulants	18.14	1.096-300.27	0.043
First-line treatments	3.10	1.305-7.401	0.010
Second-line treatments	4.74	1.932-11.63	<0.001

UOR¹: Unadjusted Odds Ratio, IQR²: Inter Quartile Range, CT³: Computed Tomography

Herpes Zoster Ophthalmicus-Case Report

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Abstract

In this case report, a case of herpes zoster ophthalmicus developing in a 36-year-old male patient is presented. The patient's presenting complaint is pain and rash on the face. The case developed in a young patient without a history of immunodeficiency or comorbidities. The diagnosis was made based on clinical findings and brivudine and topical treatments were used as treatment. The importance of herpes zoster ophthalmicus and diagnostic-treatment approaches are emphasized. This case illustrates a rare condition that can cause vision loss if not treated appropriately. The importance of early diagnosis and treatment was emphasized, starting antiviral treatment within 72 hours and the importance of dermatology and ophthalmology consultation.

Key words: emergency medicine, herpes zoster ophthalmicus, case report

Introduction

Varicella Zoster Virus (VZV) is one of the main causes of diseases such as chickenpox and zona (or herpes zoster). VZV is a DNA virus that belongs to the Herpesviridae family and can only infect humans. In susceptible individuals, VZV infection usually begins with a condition called chickenpox. Varicella Zoster Virus can remain latent in the body throughout a person's life and wait silently in the nerve ganglia. If the immune system is weakened or there are other triggering factors, the virus can be reactivated. In this case, an infection known as zona occurs(1).

Risk factors for the development of zona include diseases that affect the immune system such as HIV, immunosuppressive medications and old age. These factors make it more likely that the virus will be reactivated when the immune system is weakened. Herpes zoster is an infectious disease characterized by vesicular rashes that occur as a result of reactivation and most commonly affect the thoracic (chest), cervical (neck), ophthalmic (eye) and lumbosacral (waist and coccyx) dermatomes (2). Approximately 10-20% of individuals infected with VZV may develop zona. Approximately 4% of patients who develop herpes zoster are hospitalized and treated for reasons such as bacterial infections (superinfection), eye involvement, and severe and long-term pain (3).

Case

In this case report, immunodeficiency etc. We aimed to present a case of herpes zoster ophthalmicus that developed in a 36-year-old male patient who did not have any comorbidities. The patient's presenting complaint was pain and rash on the left side of his face. From the anamnesis taken from the patient, we learned that he had no chronic disease and did not use any medication. In physical examination; fever was 36.7°C, blood pressure was 129/87 mm Hg, pulse was 101/minute. The patient had vesicular lesions in the frontal region, eyelid region, and nose area (Figure-1,2,3,4). Other system examinations were normal. There was no pathology in complete blood count and routine biochemistry values. The patient was asked for ophthalmology and dermatology consultation with a preliminary diagnosis of ophthalmology and herpes zoster ophthalmicus in order to prevent possible eye disease complications. Dermatology prescribed brivudine 125 mg tb orally once a day, dextoprofen 25 mg orally twice a day, and topical ointment containing nitrofurazone to be used on the skin twice a day. The patient was called to the dermatology clinic for a check-up 7 days later. Eye drops containing moxifloxacin and artificial tear drops were started by ophthalmologists to prevent possible super-infections, and he was called for outpatient clinic control.



Picture-1



Picture-2



Picture-3



Picture-4

Discussion

Zona is more common in immunocompromised people and in people over the age of 45. Cases of herpes zoster ophthalmicus account for approximately 10 percent of all zona cases. For Zona, Caucasian Race, being of female gender, trauma to that area, having diabetes mellitus, some psychiatric diseases such as depression accepted as a risk factor (4). Our case was interesting in that it was young and had no additional disease.

Herpes Zoster Ophthalmicus develops as a result of activation of VZV, which is found latently along the fifth cranial nerve of the trigeminal nerve. The ophthalmic branch of the fifth cranial nerve innervates the eyelids, eyebrows, forehead skin and tip of the nose. The ophthalmic branch divides into lacrimal, frontal and nasociliary branches. The nasociliary branch innervates structures such as the skin of the tip of the nose, cornea and uvea. Therefore, if there are lesions involving the side of the nose (Hutchinson's sign), there is a possibility that corneal lesions may also occur (5). Usually the first symptom of zona is pain in the affected dermatome and a vesicular rash similar to chickenpox appears. In healthy individuals, spread outside the primary dermatome is generally rare. In these patients, systemic symptoms such as itching, redness, pain, vesicular rash in the affected area, as well as fever, fatigue, headache, and photophobia may also be observed (6).

In the case of zona, secondary bacterial infections should be considered if lesions worsen. In secondary bacterial infections, the causative agent is usually staphylococci or streptococci and may rarely cause bacteremia if early diagnosis is not made. When eye involvement occurs in cases of Herpes Zoster Ophthalmicus, conditions such as conjunctivitis, scleritis, keratitis and uveitis may develop. Acute retinal necrosis, one of the most serious complications, is an important cause of blindness(5).

The diagnosis of Herpes Zoster Ophthalmicus can usually be made based on clinical findings and the patient's history, and laboratory confirmation is usually not needed. However, when confirmation is required, direct fluorescent antibody (DFA) or polymerase chain reaction

(PCR) tests can be used. Oral acyclovir, famciclovir or valacyclovir can be used in treatment. As in this patient, brivudine may be preferred. It has been reported that starting treatment within the first 72 hours reduces postherpetic neuralgia. Postherpetic neuralgia is seen in 40-50% of patients, especially those over the age of 60. In herpes infections, if there is ocular involvement, intravenous treatment is usually not necessary except for acute retinal necrosis. Additionally, elderly patients, those with central nervous system involvement, those with immunosuppression, and those who cannot tolerate oral treatment should be hospitalized and treated. In case of advanced ocular involvement, intravitreal antiviral treatment may also be considered (5, 6, 7).

Conclusion

Orbital zona is a type of zone that is not very common but can result in vision loss if not treated properly. It will be useful to start antiviral treatment in the first 72 hours and consult dermatology and ophthalmology.

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Retrospective Examination of Renal Colic Patients Admitted to the Emergency Department

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Abstract

Introduction

Acute renal colic is considered a distinct pain symptom of urological stone disease. This disease is seen in 1-10% of people throughout life. Patients with kidney stones may have no symptoms or experience mild to severe pain. Renal colic is characterized by pain starting from the lumbar region and radiating from the front to the groin areas. This pain usually occurs as a result of irritation and obstruction caused by the stone passing into the ureter. Among the clinical symptoms of urinary system stone disease, at least one stone must be more than two millimeters in diameter.

Material and Method

In this study, patients who applied to our hospital's emergency department in the last six months before 01.01.2023 and were diagnosed with flank pain were examined. Data analysis was performed using hospital IT records. Trauma cases were not included in the study and patients under the age of 18 were not included in the study. The demographic information, physical findings and imaging methods of the patients were recorded. Statistical analyzes were performed using SPSS IBM Statistics 20 program.

Results

In this study, the clinical findings of patients who applied to the emergency department with the complaint of flank pain and their relationship with hematuria were examined. A total of 2543 patients were examined and findings consistent with renal colic were found in 26.5%. Urinary tract infection was detected in the majority of patients with hematuria. Ultrasound and/or computed tomography were performed for the diagnosis of renal colic. The average age of the patients in the study group was 38.22 and the majority were men. The most common complete urinalysis finding is hematuria. When the location of the stones was examined, it was determined that most of them were at the ureterovesical junction. When looking at the stone sizes, it was determined that 41% were smaller than 5 mm and 34% were between 5-10 mm.

Discussion

Renal colic is a sudden, severe pain that usually starts in the side and spreads to the groin area. In this study, the complexity of acute flank pain, treatment methods and imaging techniques are discussed. The frequency of renal colic generally varies between 12-15% and is more common in men than women.

Conclusion

Hematuria is an important symptom of renal colic and is often associated with urinary tract infection. Among imaging techniques, ultrasonography is preferred because it is non-invasive and does not involve X-rays. However, in some cases computed tomography may be a more accurate option. In conclusion, gender distribution, symptoms and imaging techniques play an important role in the evaluation of patients with renal colic.

Key Words: Flank pain, Renal colic, Urological Stone Disease,

Introduction

Acute renal colic is a clinical presentation characterized by severe pain associated with urological stone disease, leading patients to seek emergency care. It is known as one of the most intense forms of pain, with a reported lifetime incidence of 1-10% (1). While some patients with kidney stones may have no symptoms, others may experience mild or severe colicky pain. Renal colic refers to pain that starts in the lumbar region and radiates anteriorly towards the groin. Acute flank pain is a common and complex clinical problem, often attributed to urolithiasis, acute urinary tract obstruction, or acute flank pain itself. The pain caused by a stone located solely in the calyx or renal pelvis is typically dull or aching, whereas passage of a stone into the ureter may manifest as colicky pain (2). Renal colic is characterized by sharp pain due to irritation and obstruction caused by a stone passing through the ureter, starting in the flank and radiating towards the groin. The pain results from the contraction of ureteral smooth muscles attempting to resist the increased intraluminal pressure associated with obstruction. Clinical manifestation of urinary stone disease requires a stone to have a diameter of at least two millimeters (3).

Materials and Methods

Patient Selection

In this study, patients who presented to our emergency department with a diagnosis of flank pain in the six months preceding January 1, 2023, were examined. Data obtained from the hospital information system were analyzed in raw form. Trauma cases were not included in the study, and patients under the age of 18 were excluded. Patient demographics, medical history, vital signs, and type of imaging performed were recorded.

Statistical Analysis

The data were analyzed using SPSS IBM Statistics 20 software. The chi-square test was used to compare categorical variables, and the Shapiro-Wilk test was used to assess the normal distribution of numerical variables. Bonferroni test was preferred for multiple comparisons, and Pearson correlation analysis was used to evaluate the relationship between numerical variables. A p-value of <0.05 was considered statistically significant.

Results

During the data collection period, a total of 2543 patients presented to our emergency department. Among the 2543 patients who underwent a full urine examination after physical examination, macroscopic/microscopic hematuria, suggestive of renal colic, was detected in 673 patients. Further evaluation of these 673 patients revealed that hematuria was not associated with renal colic in 473 cases. Among patients without renal colic but with hematuria, urinary tract infection was the most common finding, followed by anticoagulant use, acute nephritis, renal artery/vein thrombosis, thrombocytopenic disorders, tumor, and polycystic kidney disease.

To determine the relationship between the presence of hematuria and renal colic, ultrasonography and/or computed tomography scans were performed. All 200 patients included in the study underwent a direct urinary system graphy, 182 underwent ultrasonography, and 194 underwent computed tomography scans. Stone presence was detected in 122 cases where ultrasonography was performed. Pelvicalyceal ectasia, an ultrasonographic sign of renal colic, was observed in 57 patients. Unilateral hydronephrosis due to stone presence was found in 24 cases, while bilateral hydronephrosis was observed in 3 cases.

Evaluation of the ages of the patients included in the study revealed that all patients were above 18 years old. The mean age and standard deviation of the study group patients were

38.22 ± 14.5. As shown in Table 1, there were 57 female and 143 male patients. When comparing genders, a p-value of 0.912 was obtained.

Table-1: Comparison of Patients by Gender

Gender	n	%	p
Female	57	28.5	0,912
Male	143	71.5	0,912

When the complete urine analyses (CUA) of the patients were examined, it was observed that the most common finding was hematuria, accounting for 81% (n:162). In the second place, leukocyturia was observed in 26% (n:52), while the presence of proteinuria was detected in 20% (n:40) (Table 2).

Table-2: Representation of values detected in complete urine analysis

Findings	n	%
Hematuria	162	81
Leukocyturia	52	26
Proteinuria	40	20

When examining the findings obtained by ultrasonography and/or computed tomography regarding the location of the stone, it is observed that 28% (n=28) were in the proximal ureter, 8% (n=16) were in the middle ureter, 33% (n=66) were in the distal ureter, and 42% (n=84) were in the ureterovesical junction (Table 3).

Table 3: List of urinary system stones according to their locations

Stone Localization	n	%
Proximal Ureter	28	14
Middle Ureter	16	8

Distal Ureter	66	33
Ureterovesical Junction	84	42

In the 194 cases examined in the study group, the sizes of the stones were observed as follows: 82 cases (41%) were smaller than 5 mm, 68 cases (34%) were between 5-10 mm, 28 cases (14%) were between 10-20 mm, and 16 cases had stones larger than 20 mm. (Table-4)

Table-4: Classification by Stone Sizes

Stone Size	n	%
Smaller than 5 mm	82	41
Between 5-10 mm	68	34
Between 10-20 mm	28	14
Larger than 20 mm	16	8

Discussion

Renal colic is a clinical condition characterized by severe pain typically starting suddenly and radiating from the flank to the groin. Acute flank pain is a common and complex clinical problem encompassing various factors such as patient comfort, medical management and treatment, imaging modalities used, medications, prompt and early diagnosis, and treatment costs(4). It is also among the common reasons for emergency department visits. The incidence of renal colic varies between approximately 12-15% and may increase due to various factors. Particularly, it is noted that hot climates and specific genetic characteristics in certain countries may contribute to stone formation(5). Consistently with our study, it has been observed that the incidence of renal colic is three times higher in males compared to females. This phenomenon is thought to be associated with endogenous oxalate production in the liver due to high serum testosterone levels (6). In studies conducted, microscopic hematuria is detected in most patients with renal colic, and in some cases, leukocyturia is also observed. These findings play a significant role in the diagnosis and management of the disease(7,8). Imaging modalities used in the evaluation of patients with renal colic include direct intravenous urography, ultrasonography, and computed tomography. There are varying opinions regarding the effectiveness, advantages, and disadvantages of these methods.

Particularly, ultrasonography is considered an important evaluation tool in the initial assessment of patients with flank pain due to its non-invasive nature, ease of use, repeatability, ability to detect stones, and lack of harmful X-rays(9). However, in some cases where stones cannot be detected or there are difficulties in evaluation with ultrasonography, computed tomography may be preferred(10). Ultrasonography is generally accepted as the primary method in children and pregnant women suspected of renal colic, but different opinions may be presented for other patient groups(11). Some authors may consider computed tomography as the initial examination for diagnosing or ruling out stones, especially in cases where the evaluation is complicated by the presence of bowel gas making it difficult to assess with ultrasonography(12).

Conclusion

In patients presenting to the emergency department with renal colic, the gender distribution is approximately three times higher in males, consistent with the general literature. Flank pain is the most common reason for emergency department visits in patients with renal colic. Microscopic hematuria is the most frequently observed finding in the urine of patients diagnosed with renal colic. Some renal colic cases may involve life-threatening conditions. It has been determined that serum biochemistry studies do not contribute to the diagnosis. These findings provide important clinical clues for the evaluation and treatment of patients with renal colic.

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FACTORS AFFECTING LIFE EXPECTANCY

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INTRODUCTION

In order to determine the development of a country, it is important to evaluate the health services of that country. First of all, it is important to understand the population and to consider factors such as economy and health according to the population in order to evaluate countries within themselves and to compare them in a fair way. Life expectancy is considered very important by the World Health Organization, which is seen as the world health authority, and is included in statistical yearbooks.

When the life expectancy and development levels of countries are analyzed, it is seen that less developed countries are behind in terms of life expectancy compared to developed countries (Aydın, 2020). Although there are many factors affecting life expectancy, it is also seen as an indicator of many outcomes. The aim of this study is to make an original contribution to the health economics literature and to provide clear and concise information to academics, policy makers and decision makers working in the field of health by bringing together research on the factors affecting life expectancy, which is an important issue in terms of health economics and health indicators. Many studies in the field have identified one or two independent variables while addressing the factors affecting life expectancy, and the number of studies with more than two variables is quite low. In the future, with the support of authority, a wider range of factors and their interaction within themselves

2. GENERAL INFORMATION

2.1. Life Expectancy

Life Expectancy at Birth is defined as the average length of time people live (Bilas, Franc, & Bosnjak, 2014). Life Expectancy is considered as one of the most important social and economic indicators for countries (Balan & Jaba, 2011).

All improvements in health such as improved nutrition, development of medical technology, increased access to health, increased quality of health services, strengthening the infrastructure of public health services positively affect life expectancy. Since the prolongation of life expectancy will also have a positive impact on the economy of the country, not only the improvement of health but also broader positive results can be achieved (Şahin, 2018).

2.2. Place and Importance of Life Expectancy in Basic Health Indicators

Looking at the statistics published annually by the World Health Organization; mortality at birth, skilled birth attendance, child mortality, incidence of HIV, tuberculosis, malaria, hepatitis B, suicide mortality, alcohol and tobacco use, deaths due to traffic accidents, family planning, adolescent birth rate, air pollution, unsafe water sanitation and hygiene services, indicators such as deaths due to unintentional poisoning, vaccination coverage, health workers, government health expenditures, safe water sanitation and hygiene services, clean household energy, air pollution, homicide (WHO, World Health Statistics , 2017). Life Expectancy in World Health Organization reports

2.2.1. Why Life Expectancy

Although there are many indicators used to comment on and provide information about the health of a society or an individual, one of the most widely used is life expectancy. Since it means how long a person will live, many factors can be referred to. Life expectancy is used more reliably when mortality rates do not deviate due to an external cause such as an epidemic (Ulutürk, 2015).

The 20th century has become a very important time period in terms of health worldwide. Life expectancy has increased from 40 years in the 1950s to 63 years in the 1990s, and this increase has been attributed to factors such as improving technology, health conditions, strengthening service provision, and good eating habits. As can be seen, the determinants of life expectancy on a country's health level are quite old and well-established (Bhargava, Jamison, Lau, & Murray, 2001). Therefore, in our study, it is aimed to add to the literature in terms of seeing the factors affecting life expectancy together.

2.3. Factors Affecting Life Expectancy

In studies on the factors affecting life expectancy, dependent variables are sometimes determined as life expectancy at birth, life expectancy over 5 years of age and life expectancy over 65 years of age, taking into account the logical domains of independent variables. While reviewing the literature for this study, not only studies on life expectancy at birth or life expectancy over 5 years of age, but also studies examining the relationship between life expectancy at age 65 were considered. The differences in the dependent variables are not only limited to life expectancy by age, but in some studies, limitations such as life expectancy in women, life expectancy in women between the ages of 15-64 may also vary according to the frameworks of the studies. The reason for this is the search for answers to the questions "Which indicators affect life expectancy?" and "In what direction / how much X factor

affects life expectancy?" which dominate the studies in general. Google Scholar and Web of Science (WoS) academic databases were used in the literature review.

Some of the studies on the factors affecting life expectancy in the literature can be summarized as follows; When analyzed within the framework of Turkey, the relationship between life expectancy and economic growth has been examined for the years 1980-2005 and it has been observed that economic growth and life expectancy have a positive relationship using the ARDL bounds test (Erdoğan & Bozkurt, 2008).

In another study conducted for the same time period, the relationship between life expectancy, health expenditures and Gross National Product in Turkey between 1980-2005 was investigated and a causality was found from health expenditures to GNP and from life expectancy at birth to GNP using time series analysis (Yumuşak & Yıldırım, 2009).

The 2003 economic indicators of 176 countries were subjected to multiple regression analysis and it is stated that health expenditures are more effective on life expectancy and infant mortality rate than income level, and that a positive and significant effect on life expectancy and infant mortality rate cannot be seen by increasing income level only (Tüylüoğlu & Tekin, 2009).

According to the study, which was conducted with data from 1968 to 2006, real gross domestic product, the number of health institutions with beds, the number of people per health officer and the number of health institutions without beds were taken as variables; a 1% increase in the number of health institutions with beds leads to a 13.21% increase in gross domestic product, a 1% increase in the number of health institutions without beds leads to a 0.78% increase in gross domestic product and a 1% increase in the number of people per health officer leads to a 5.60% increase in gross domestic product and as a result of the study, it was determined that there is a positive relationship between health indicators and economic growth (Ay, Kızılkaya, & Koçak, 2013)

In a study analyzing the relationship between per capita health expenditures and economic growth in Turkey and 27 EU member countries through econometric analysis, it is seen that in the long run, a 1% increase in per capita health expenditures leads to a 0.9% increase in economic growth, while in the short run, a 1% increase in per capita health expenditures leads to a 0.45% increase in economic growth. (Selim, Uysal, & Eryiğit, 2014). In addition, life expectancy at age 65 was also found to be most affected by per capita health expenditures (Bayın, 2016).

When comparing the health indicators and health expenditures of OECD countries and Turkey, it was found that the share of health in the general budget increases as the life expectancy and quality of life

increase, health expenditures increase as the per capita income level increases and decrease as the per capita income level decreases, health status is positively affected as literacy increases, a 10% increase in income level leads to a 2.6% decrease in infant mortality, healthy life expectancy increases as health expenditures increase, each 100 USD increase in health expenditure leads to a 0.42 years increase in healthy life expectancy, the explanatory power of the number of doctors is 66% for under-5 mortality rate, the joint explanatory power of the number of doctors and gross domestic product per capita is 79% for under-5 mortality rate, and maternal mortality rate decreases as the number of doctors/nurses per 1000 people increases (Sayılı, Aksu Sayman, Vehid, Köksal, & Erginöz, 2017).

In a study analyzing 16 out of 21 APEC countries, which conducted a panel data analysis between 2000 and 2013, and considered life expectancy at birth as the dependent variable, inflation rate, increase in gross domestic product per capita, food production index, population growth and total health expenditures as independent variables, it was found that the increase in gross domestic product per capita, food production index, population and total health expenditures had a positive relationship with life expectancy, while inflation and unemployment rates had a negative relationship with life expectancy (Şahin, 2018).

In a study of 6 OECD countries, annual data on life expectancy, health expenditures, unemployment and gross domestic product between 2000 and 2016 were subjected to Panel Regression Analysis and Granger Causality Analysis, and it was observed that there is a bidirectional causality relationship between life expectancy and unemployment rate and the share of health expenditures in gross domestic product, while there is a unidirectional causality relationship from health expenditures to life expectancy. This study also concluded that the most important variable affecting life expectancy in OECD countries is health expenditures (Aydın, 2020).

Again, in a study conducted on 28 OECD countries in 2020 with data on GDP per capita, urbanization rate, crude birth rate and carbon dioxide emissions per capita taken between 1980-20018, it was observed that GDP per capita and urbanization rate significantly affected life expectancy, but crude birth rate and carbon dioxide emissions did not affect life expectancy at a statistically significant level (Tıraş & Özbek, 2020).

3. METHODOLOGY AND LIMITATIONS

The method of this study is literature review and Google Scholar and Web of Science (WoS) academic databases were used in the literature review. AND conjunction was used during the searches and the studies before 2010 were not included in the literature review. The exclusion criteria of the studies

were determined as being before 2010, not being fully related to the subject being researched although they contain the words written, and the studies other than these two academic databases were also not included. In our literature review, we tried to bring together the Factors Affecting Life Expectancy and tried to explain which factors were emphasized. In the scans, 74 international and 14 national articles fully meet the researched topic. Chronological order was taken into consideration while writing the literature review.

The research had to be limited to Google scholar and WoS and other indexes should be examined in future studies. In addition, since the study is a compilation study, no data was collected and no statistical analysis was performed. Therefore, based on the review, definite comments that can be attributed to the whole universe cannot be made. This study does not aim to reach a conclusion through an analysis on the factors affecting life expectancy, but aims to guide future studies on which factors are emphasized in the research on the subject and also if there are factors that are thought to be impact analyzed and not analyzed.

4. RESULTS

Although life expectancy is a strong indicator that explains the situation of societies and individuals, it can also be affected by many factors. The level of development of a country can be explained through education, income and health indicators of individuals in the country (Tüylüoğlu & Tekin, 2009). The most studied factors are economic growth (bidirectional), income status, education status, which are defined as Social Determinants of Health by the World Health Organization and which are also seen as economic indicators, such as income status and the share of health expenditures in GDP.

According to the reviewed studies, the factors that are investigated whether or to what extent they affect Life Expectancy are listed below;

- Socioeconomic development
- Behavioral risk factors
- Education
- Income status in the COVID-19 pandemic
- Social disadvantage and economic inequality COVID-19
- Economic growth
- Health Expenditures
- Share of Health Expenditures in Gross Domestic Product
- Air pollution
- Household income
- Choice of nutrition
- Income inequality

- Healthy living habits
- Education service delivery
- Smoking and alcohol consumption habits
- Social development
- Burden of disease
- Male / Female sexual health
- Dental diseases,
- Medical / Health insurance Cardiovascular diseases
- Physical activity
- Schizophrenia, Parkinson's
- Individual life path
- Postoperative complications
- Suicide
- HIV Infection

When we want to classify the factors we encounter in the literature, two main groups are observed. The first group is directly related to health, such as communicable/non-communicable diseases, the strength of the health system, service delivery, health policies, and the second group is economic indicators and social determinants of health, such as social, economic, cultural and environmental conditions, nutrition, education, environmental pollution, income level, living and working conditions, housing.

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Pneumothorax after Prolotherapy

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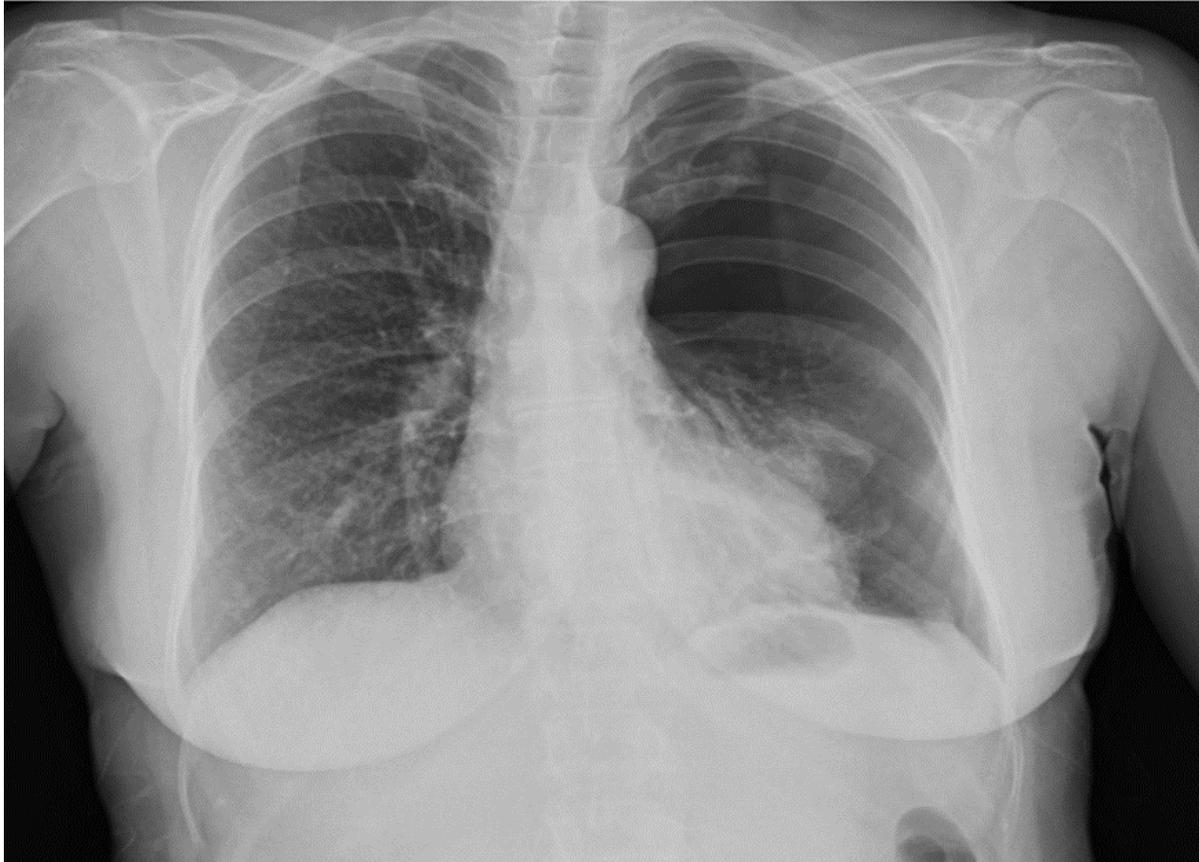
INTRODUCTION

Prolotherapy involves injecting a sugar and saline substance into a sore joint or muscle, where it acts as an irritant.

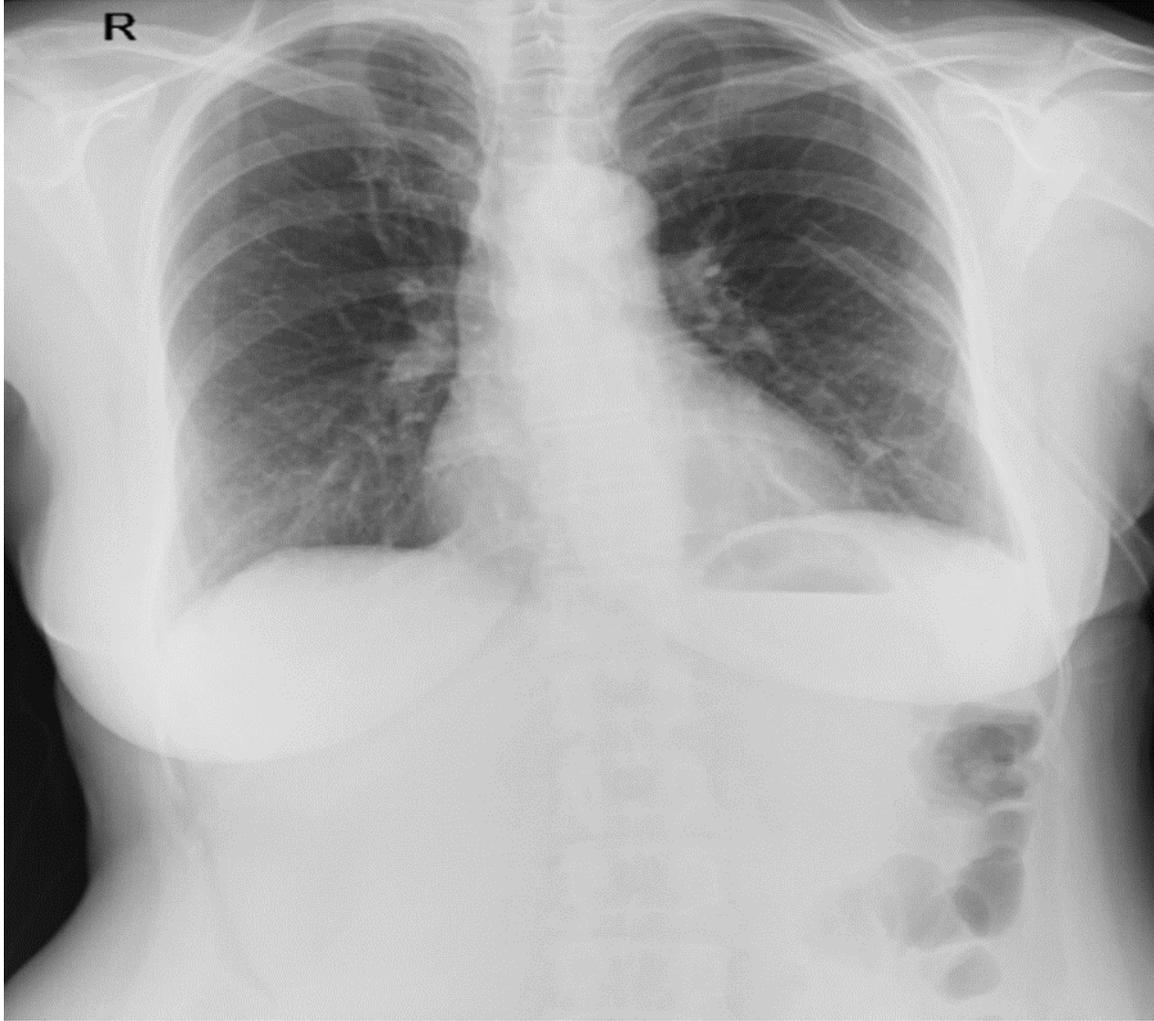
It's acting principle depends on a thought that your body recognizes the irritant and sends immune cells and other chemicals to the area, which starts body's natural healing process. Prolotherapy is also widely used for pain relief in rotator cuff syndrome and miyofascial pain syndrome.

In our patient, we had a pneumothorax as a complication.

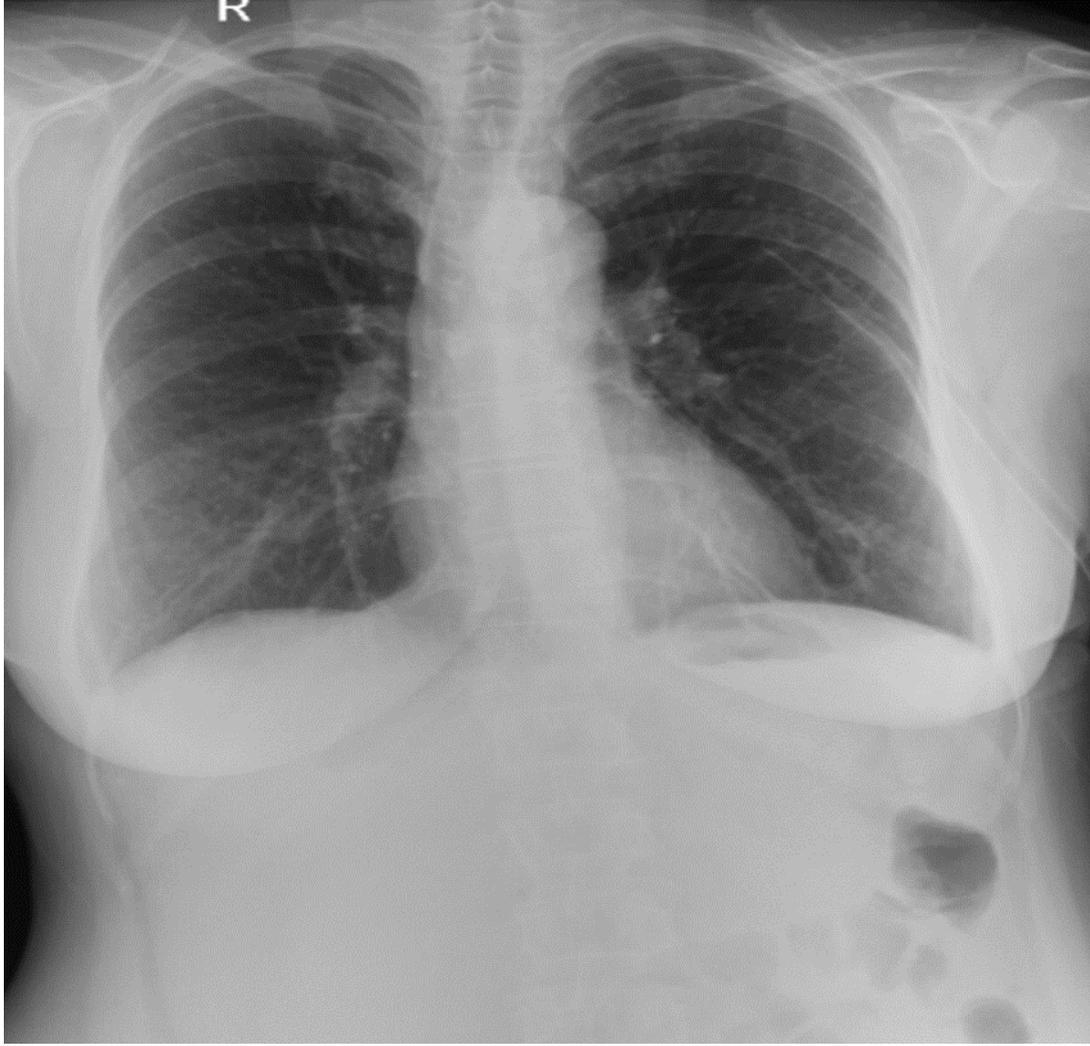
19.02 (First Day)



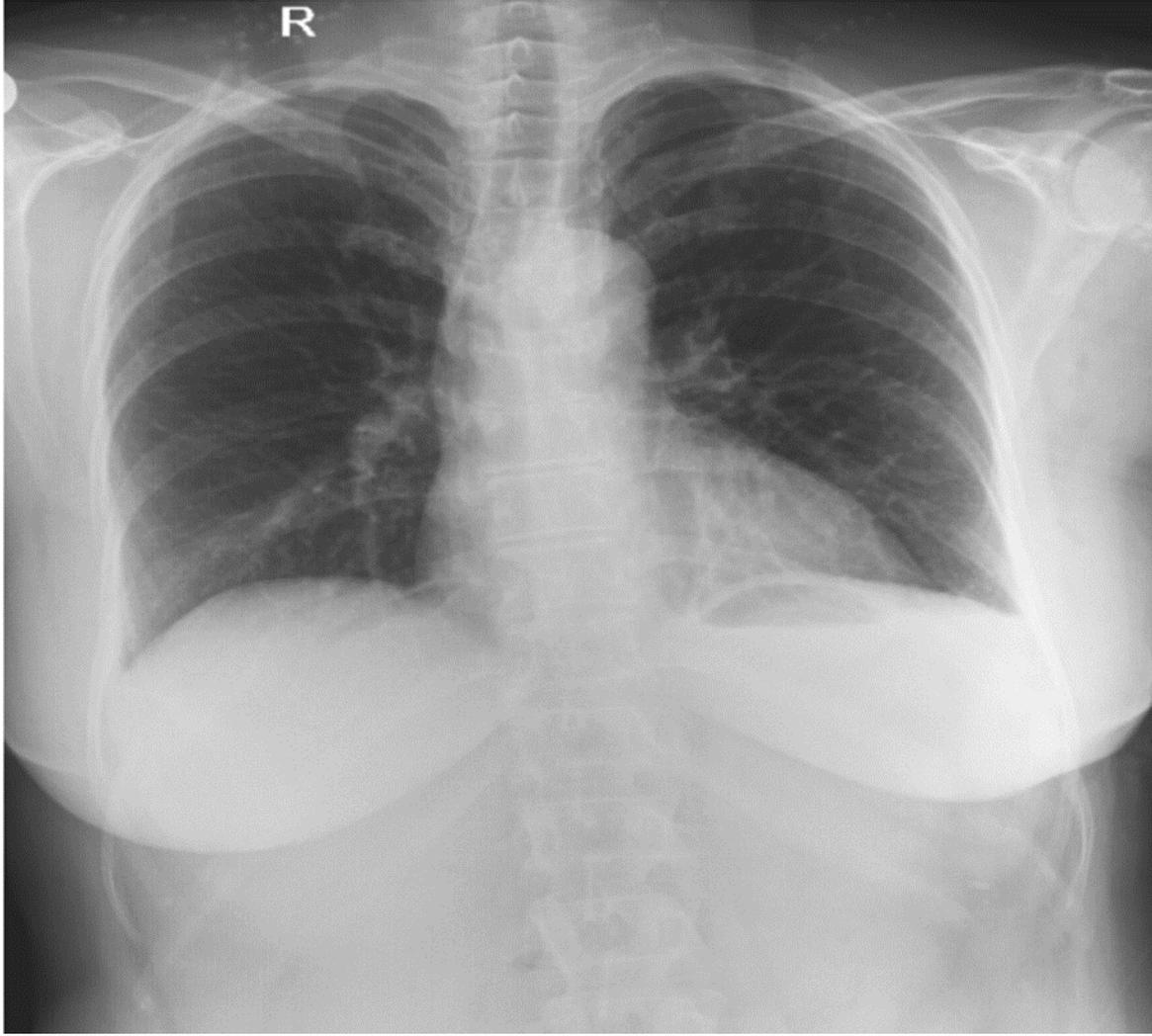
20.02 (Second Day – Tube Placement)



21.02 (Third Day – Follow Up)



22.02 (Fourth Day – Discharge)



CONCLUSION

We use needle injection to trapezius muscle, around scapulae and glenohumoral ligament for pain relief in rotator cuff syndrome, but in this patient, while injecting saline around levator scapulae attachment site and pneumothorax occurs.

Clinicians has to be aware of complications while performing invasive procedures.